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City of Toronto Fire Department
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This annual report was produced by the City of Toronto Fire Department with the assistance of the Department of the City Clerk, Information and Communication Division and Records and Archives Division.

Cover: The most spectacular and costly fire of 1988, the $3 million blaze at 901 Adelaide Street West, destroyed a City block containing 70 partially-completed townhouse condominiums.
Photo by Bill Sandford.

All other photographs by the Toronto Fire Department Information Section.

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FIRE CHIEF WALTER J. SHANAHAN, REPORTS

There was a "changing of the guard" at the Toronto Fire Department in 1988.

Ninety-five officers and firefighters left the Department in 1988 after years of distinguished service, including three high-profile retirees: Chief Bernard A. Bonser, Assistant Deputy Chief William Sproule, and Senior Payroll and Personnel Clerk Dorothy Coles, all 42-year veterans.

A number of highly-qualified individuals have moved up within the Department's ranks, creating a new administration team. Related appointments include Assistant Deputy Chief Joseph Underwood to Deputy Chief, District Chief Ronald McDonald to Assistant Deputy Chief, responsible for the Firefighting, Communications, Apparatus Maintenance, and Technical Services Divisions. Platoon Chief Ronald McCarthy was promoted to Assistant Deputy Chief in charge of the Fire Prevention and Training Divisions, and Ms. Rose Assalone was appointed to the position of Senior Payroll and Personnel Clerk.

While new, this management team possesses many years' experience. Its members – for that matter all Department personnel – are working diligently to ensure the Department builds on its reputation as a modern and efficient emergency-response service. Our goal, as always, is to anticipate and meet the changing safety needs of an increasingly complex community.

Fire Chief
Walter J. Shanahan

Rise in Number of Fire Deaths

A related concern is an increase in the number of fire fatalities. In 1988 there were 24 such deaths in the City, up from 14 the previous year. These fatality statistics are the highest since 1980, when there were 31 fire-related deaths.

Fire fatalities in the City mirrored national trends. Most occurred in one- or two-family homes; caused by careless smoking. The majority of these homes were not protected by smoke alarms. In several instances, smoke alarms had been disconnected following repeated false alarms, the result of homeowners installing the alarms near kitchens or bathrooms.

The Department will redouble its education efforts during 1989, and continue to draw the public's attention to the importance of installing and properly maintaining smoke alarms. The Department will also highlight the need to prepare an escape plan for use in the event of a fire, and offer advice on how to identify and remove possible fire hazards around the home.

There were 3,682 fires reported in 1988, down from 3,896 in 1987. This slight decline was outweighed by a significant jump in the number of medical and public service calls, the end result being that the Department experienced an increase in the total number of emergency incidents, up from 36,002 in 1987 to 37,998 in 1988.

TFD Personnel Honoured

Firefighters Donald Bray and Donald Beam were named 1987 Firefighters of the Year by the Toronto Junior Board of Trade/Toronto Jaycees for their rescue of an unconscious man from a burning basement. Their courageous actions during the February 14 fire at 270 Roncesvalles Avenue had already earned them Ontario Medals for Firefighters Bravery. Additional recognition for Firefighter Bray came in June of 1988, when he was presented with **Firehouse Magazine's** 1987 Heroism and Community Service Award.

The Department also recognized its own, presenting eight commendations for acts of bravery, six letters of merit, and seven station citations for outstanding performance and dedication to duty.

A family of four died in this Walpole Avenue blaze.

Women, Minority Recruits Encouraged

A major recruitment drive to increase the number of women and visible minority firefighters was launched by the Department in 1988.

The Department has encouraged applicants from under-represented target groups before, but in 1988, considerably more money was spent on newspaper advertising, and three times as many career guides (60,000), were printed and distributed.

The ambitious outreach effort was spearheaded by three specially-trained members of the Fire Prevention Division, who were assisted by representatives from the City's Personnel, Equal Opportunity, and Communication Services divisions.

Career information sessions, open to the public, were held on two separate occasions at the Fire Academy. Beforehand, a special briefing was staged for leaders of community and women's organizations. As a result of this briefing, and extensive follow-up, the Department had the opportunity to take its career opportunity message to members of the City's Portuguese, Filipino, Chinese, Black, and Native Canadian communities.

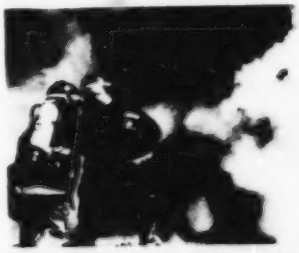
In total, 1,000 men and women attended the Department's career information sessions, and 2,000 firefighter applications were received.

Large-scale facilities, such as the new SkyDome Stadium, represent unique fire prevention and firefighting challenges.

A Tradition of Caring

When not fighting fires and saving lives and property, Department personnel contributed many off-duty hours to a number of worthy causes and events. In February, a cheque for $28,759 was presented to the Hospital for Sick Children, following a fund-raising CN Tower Climb. Donated by the Department and Local 113 of the International Association of Fire Fighters in memory of Captain Donald Babineau, who died of injuries received during a training exercise, the contribution will fund a room at the hospital's burn unit. Firefighters also raised substantial amounts for the Canadian Children's Foundation and the Muscular Dystrophy Association of Canada, and continued to receive and help sort food donations dropped off at fire stations.

My sincerest gratitude and congratulations to those who organized and participated in these and similar community-oriented projects. My appreciation also to Mayor Eggleton, Members of City Council, and to those civic departments, agencies and organizations that helped the Department achieve its goals and meet its varied and growing responsibilities.



Teamwork is crucial in all firefighting situations.

I congratulate all Department staff and their supporters on their achievements in 1988. With the continued support of the community it protects, and the dedicated effort of all staff, the Toronto Fire Department will strive to meet the challenges of the coming year and beyond.

TORONTO FIRE DEPARTMENT STAFF

Chief	1
Deputy Chief	1
Assistant Deputy Chiefs	2
Platoon Chiefs	4
Marine Captains	5
Fire Captains	204
Fire Prevention Division	37
Apparatus Maintenance Division	16
Technical Services Division	4
Fire Planning and Operations Research Division	3
District Chiefs	36
Marine Engineers	5
Firefighters	933
Training Division	6
Medical Division	4
Communications Division	19
Administration Division	12
City of Toronto Population	606,247
City of Toronto Area	100 sq km
Cost of operating the Department, excluding water	$68,400,000

Firefighters work a 42-hour week, 10 hour-days, and 14 hour nights, two shifts with a four platoon system.

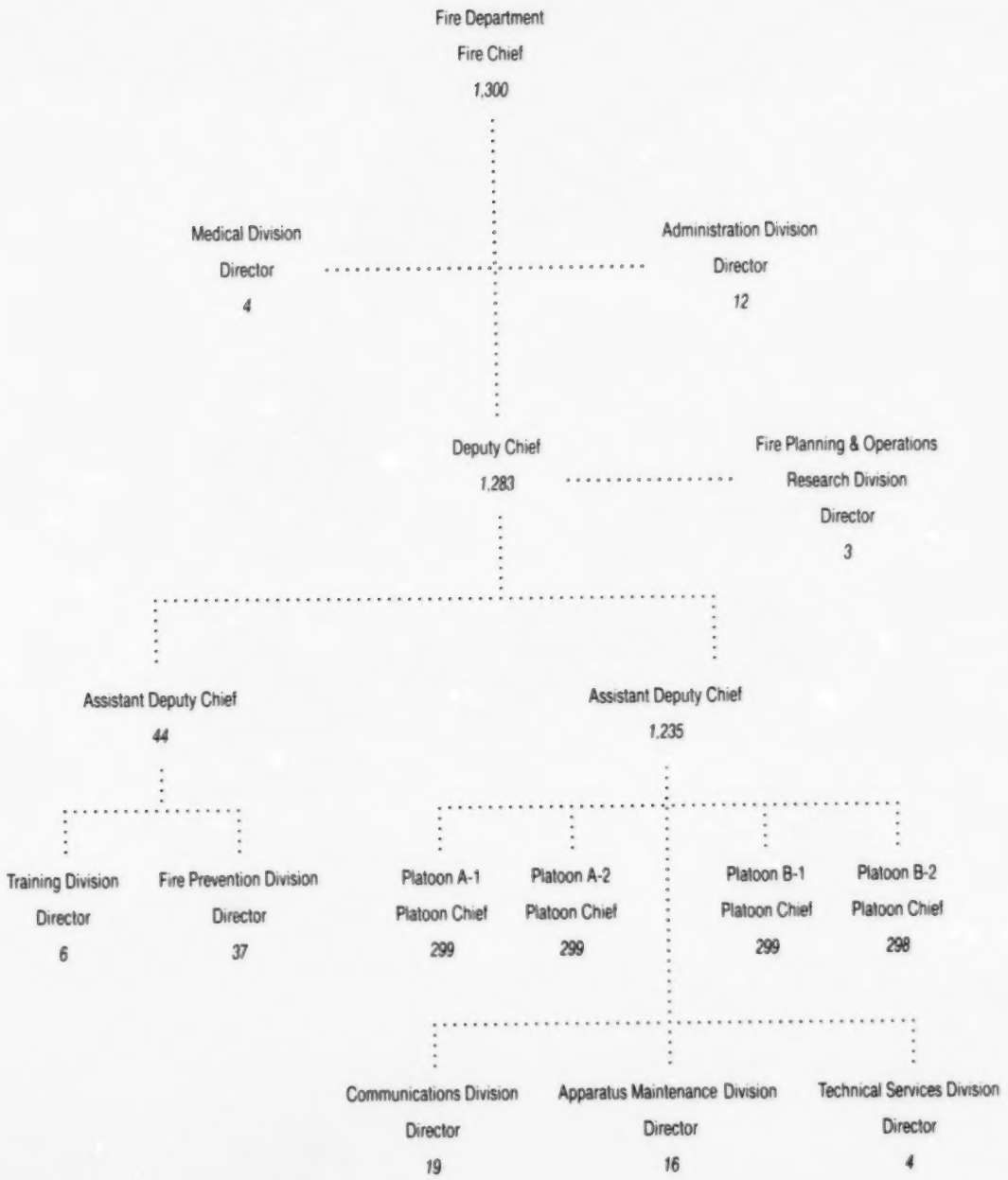
Fire Chief
Walter J. Shanahan

Deputy Chief
Joseph F. Underwood

Assistant Deputy Chief
Ronald G. McCarthy

Assistant Deputy Chief
Ronald W. McDonald

TFD ORGANIZATIONAL CHART AND ESTABLISHMENT



INCIDENT BREAKDOWN

Fires:	
Buildings	2,174
Vehicles	423
Rubbish and Grass	1,114
Total Fires	3,711
Services:	
Medical	16,737
Public Service	4,075
Total Services	20,812
False Alarms	3,533
Accidental Alarms	9,686
Total Incidents All Types	37,998
Total Fire Loss	$ 20,055,077
Casualties:	
Fire Fatalities (citizens)	24
Citizens Injured	137
Firefighters, On-Duty Deaths	0
Firefighters, On-Duty Injuries	258

Public service alarms include: rescues, accidents, chemical spills and leaks, and public hazards.

Accidental alarms include: sprinkler systems, alarm systems, smoke and steam mistaken as fires, and smoke alarms activated.

Aerial ladder operates as a water tower at a multiple-alarm fire.

INCIDENT TYPE BY LOCATION

Ward	Fires in Buildings	Vehicle	Rubbish & Grass	Other Runs Accidental	Medical	Public Service	False	Total No. of Runs
1	110	26	131	438	1001	253	137	2,096
2	215	31	116	530	1,671	377	234	3,174
3	140	31	76	314	978	245	113	1,897
4	169	37	70	512	1,058	287	171	2,304
5	192	29	72	821	1,453	393	136	3,096
6	462	99	209	3,646	4,507	961	898	10,782
7	366	55	128	1,317	2,273	502	1,305	5,946
8	203	47	132	448	1,196	288	232	2,546
9	108	23	73	316	964	223	128	1,835
10	124	17	64	777	907	285	111	2,285
11	84	26	39	555	710	236	65	1,715
City Total	2,173	421	1,110	9,674	16,718	4,050	3,530	37,676
Outside City	1	2	4	12	19	25	3	66
Grand Total	2,174	423	1,114	9,686	16,737	4,075	3,533	37,742

Ward	This Year Fire Loss $	Last Year Fire Loss $	Difference %
1	2,224,467	355,850	525.1
2	1,299,983	1,153,214	12.7
3	412,435	796,873	-48.2
4	3,843,439	1,310,812	193.2
5	1,187,960	1,151,592	3.1
6	5,023,195	6,063,051	-17.1
7	1,711,866	2,952,473	-42.0
8	2,506,145	1,524,474	64.3
9	720,849	504,815	42.7
10	594,512	482,265	23.2
11	528,501	516,784	2.2
City Total	20,053,352	16,812,203	19.2
Outside City	1,725	1,000	72.5
Grand Total	20,055,077	16,813,203	19.2

CITY OF TORONTO WARD BOUNDARIES

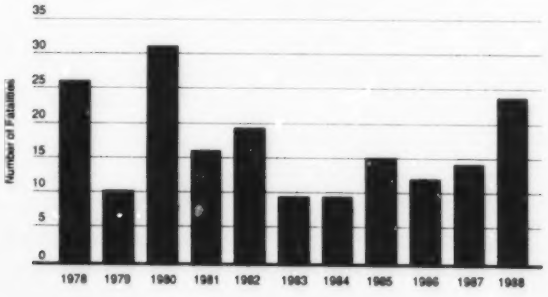
FIRE FATALITIES

Date	Time (hrs)	Location & Occupancy	Cause	Victim & Age
January 5	1506	55 Triller Ave., Apt. 914 residential	careless smoking	female, 79
January 7	0144	86 Walpole Ave. residential	careless smoking	male, 31
January 7	0144	86 Walpole Ave. residential	careless smoking	female, 31
January 7	0144	86 Walpole Ave. residential	careless smoking	female, 13
January 7	0144	86 Walpole Ave. residential	careless smoking	female, 10
January 27	0344	3112 Yonge St., Apt. 110 residential	careless smoking	female, 70
January 31	0216	385 Berkeley St. residential	careless smoking	male, 58
February 11	0322	250 Davenport Rd., Apt. 2613 residential	careless smoking	male, 29
February 25	0155	183 Niagara St. residential	careless smoking	female, 87
March 27	0645	2252 Dundas St. West residential	careless smoking	male, 35
April 16	0133	410 Keele St. residential	incendiary	female, adult
April 17	2238	rear of 98 Massey St. outside	incendiary	male, 20
May 3	0413	61 Pelham Park Gardens residential	undetermined	female, adult
May 30	0612	396 Lansdowne Ave. residential	electrical	male, 31

FIRE FATALITIES

Date	Time (hrs)	Location & Occupancy	Cause	Victim & Age
June 9	0307	186 Ontario St. residential	incendiary	male, adult
June 9	0307	186 Ontario St. residential	incendiary	male, adult
June 22	1520	248 Campbell Ave. residential	unknown	female, 75
August 4	0237	Aquatic Park Sailing Club boat	accidental	male, 28
September 9	1607	33 Christie St., Room 508 apartment	careless smoking	female, 77
October 7	2016	44 Claremont St. residential	accidential	male, 64
December 10	2107	236 Willow Ave. residential	careless smoking	male, 62
December 12	1555	48 Boultbee Ave. residential	incendiary	male, 42
December 12	1555	48 Boultbee Ave. residential	incendiary	male, 68
December 17	1943	423 Yonge St. residential	careless smoking	male, adult

FIRE FATALITIES 1978 - 1988



FIRE STATIONS AND APPARATUS

LOCATION OF FIRE STATIONS AND DISTRICTS

No. 1 Station	Pumper No. 1	1986 Thibault-Mack (diesel) 5000 Litre	6	285 HP
260 Adelaide Street West	Aerial No. 1	1987 Thibault-Mack (diesel) 30 Metre	6	285 HP
built 1971	High Rise No. 1	1987 Dependable-Mack (diesel)	6	285 HP
	Fire Command 40	1987 Dodge Van (Platoon Chief)		
No. 2 Station	Pumper No. 2	1987 Superior-Mack (diesel) 5000 Litre	6	285 HP
33 Claremont Street	Pumper No. 9	1987 Superior-Mack (diesel) 5000 Litre	6	285 HP
built 1968	Aerial Tower No. 2	1987 Bronto-Mack (diesel) 26 Metre	6	285 HP
	Rescue No. 2	1985 Mack (diesel)	6	285 HP
	Car 44	1986 Dodge Van (District Chief 4)		
No. 3 Station	Pumper No. 3	1987 Superior-Mack (diesel) 5000 Litre	6	285 HP
12 Grosvenor Street				
built 1926				
No. 5 Station	Pumper No. 5	1988 Superior-Mack (diesel) 5000 Litre	6	285 HP
207 Front Street East	Aerial Tower No. 5	1987 Hi-Ranger-Mack (diesel) 25 Metre	6	285 HP
built 1970	Rescue No. 1	1983 International (diesel)	V6	265 HP
	Car 41	1986 Dodge Van (District Chief 1)		
No. 7 Station	Pumper No. 4	1988 Superior-Mack (diesel) 5000 Litre	6	285 HP
475 Dundas Street East	Pumper No. 7	1987 Hub-Mack (diesel) 5000 Litre	6	285 HP
built 1954	Aerial No. 7	1987 Thibault-Mack (diesel) 30 Metre	6	285 HP

FIRE STATIONS AND APPARATUS

No. 8 Station	Pumper No. 8	1979 Pierreville-Scott (diesel) 5000 Litre	V6 265 HP
132 Bellevue Avenue	Aerial No. 8	1982 Pierreville-International (diesel) 30 Metre	V6 265 HP
built 1878: rebuilt 1973			
No. 10 Station	Pumper No. 10	1987 Thibault-Mack (diesel) 5000 Litre	6 285 HP
34 Yorkville Avenue	Aerial No. 10	1987 Thibault-Mack (diesel) 30 Metre	6 285 HP
built 1878: rebuilt 1973	Car 43	1986 Dodge Van (District Chief 3)	
No. 11 Station	Pumper No. 11	1978 Pierreville-Scott (diesel) 5000 Litre Foam	6 265 HP
441 Bloor Street East			
built 1967			
No. 12 Station	Pumper No. 12	1978 Pierreville-Scott (diesel) 5000 Litre	V6 265 HP
840 Gerrard Street East	Aerial No. 12	1987 Thibault-Mack (diesel) 30 Metre	6 285 HP
built 1932			
No. 14 Station	Pumper No. 14	1983 Pierreville-International (diesel) 5000 Litre	V6 265 HP
1285 Dufferin Street	Aerial No. 14	1982 Pierreville-International (diesel) 30 Metre	V6 265 HP
built 1963	Car 45	1987 Dodge Van (District Chief 5)	
No. 15 Station	Pumper No. 13	1987 Hub-Mack (diesel) 5000 Litre	6 285 HP
140 Lansdowne Avenue	Pumper No. 15	1978 Pierreville-Scott (diesel) 5000 Litre Foam	6 265 HP
built 1972	Aerial No. 15	1982 Pierreville-International (diesel) 30 Metre	V6 265 HP
	Hazard No. 1	1985 Mack (diesel) Hazardous Material Response Vehicle	6 285 HP
No. 16 Station	Pumper No. 16	1972 Pierreville-Ford (diesel) 5000 Litre	V6 265 HP
83 DeForest Road			
built 1930			
No. 17 Station	Pumper No. 17	1983 Pierreville-International (diesel) 5000 Litre	V6 265 HP
1904 Queen Street East	Aerial No. 17	1962 Mack (gas) 30 Metre	6 267 HP
built 1905			
No. 20 Station	Pumper No. 20	1987 Superior-Mack (diesel) 5000 Litre	6 285 HP
358 Keele Street	Aerial No. 20	1980 Pierreville-Scott (diesel) 30 Metre	V6 265 HP
built 1954	Car 47	1987 Dodge Van (District Chief 7)	
No. 22 Station	Pumper No. 22	1981 Pierreville-International (diesel) 4000 Litre	V6 265 HP
87 Main Street	Aerial No. 22	1982 Pierreville-International (diesel) 30 Metre	V6 265 HP
built 1910			
No. 23 Station	Pumper No. 23	1982 Pierreville-International (diesel) 5000 Litre	V6 265 HP
240 Howland Avenue			
built 1910			
No. 24 Station	Pumper No. 24	1971 King Seagrave-Ford (diesel) 5000 Litre	V6 265 HP
20 Balmoral Avenue	Aerial No. 24	1982 Pierreville-International(diesel) 30 Metre	V6 265 HP
built 1911			

FIRE STATIONS AND APPARATUS

No. 25 Station 65 Hendrick Avenue built 1916	Pumper No. 25 Aerial No. 25	1980 Pierreville-Scott (diesel) 5000 Litre 1980 Pierreville-Scott (diesel) 30 Metre	V6 265 HP V6 265 HP
No. 26 Station 153 Chatham Avenue built 1963	Pumper No. 26 Aerial No. 26 Car 42	1978 Pierreville-Scott (diesel) 5000 Litre 1968 LaFrance-Ford (gas) 30 Metre 1987 Dodge Van (District Chief 2)	V6 265 HP V8 266 HP
No. 27 Station 106 Ascot Avenue built 1915	Pumper No. 27	1981 Pierreville-International (diesel) 4000 Litre	V6 265 HP
No. 28 Station 16 Montgomery Avenue built 1932	Pumper No. 28 Aerial No. 28 Car 46	1971 King Seagrave-Ford (diesel) 5000 Litre 1974 Thibault-Ford (diesel) 30 Metre 1987 Dodge Van (District Chief 6)	V6 265 HP V6 265 HP
No. 29 Station 641 Eglinton Avenue West built 1932	Pumper No. 29 Aerial No. 29	1973 Pierreville-Ford (diesel) 5000 Litre 1968 LaFrance-Ford (gas) 30 Metre	V6 265 HP V8 266 HP
No. 30 Station 30 Knox Avenue built 1980: an addition to Fire Academy	Pumper No. 30 Air Supply No. 1	1977 Pierreville-Ford (diesel) 5000 Litre Foam 1983 International (gas)	V6 265 HP V8 245 HP
No. 31 Station 462 Runnymede Road built 1929	Pumper No. 31 Aerial No. 31	1979 Pierreville-Scott (diesel) 5000 Litre 1968 LaFrance-Ford (gas) 30 Metre	V6 265 HP V8 266 HP
No. 32 Station Manitoba Drive C.N.E. built 1922			
No. 33 Station 101 Cibola Avenue Wards Island	Pumper No. 33	1982 Pierreville-GMC (gas) 4x4 1600 Litre	V8 165 HP
No. 34 Station 3135 Yonge Street built 1931	Pumper No. 34	1982 Pierreville-International (diesel) 5000 Litre	V8 265 HP
No. 35 Station 11 Queen's Quay West built 1972	Fireboat No. 1	1964 32000 Litre Foam (diesel) 16.5 Metre aerial	
Toronto Fire Academy 695 Eastern Avenue built 1970			
Apparatus Division 11 Ordinance Street built 1932			

ANNUAL RESPONSE TYPE LISTING

Number of Runs Response Type	This Year	Last Year	Difference	%
Fire	2,164	2,244	-80	-3.5
No-Alarm Fire	10	19	-9	-47.3
Exposure Fire	191	195	-4	-2.0
Vehicle Accident or Collision w/Fire	12	9	3	33.3
Vehicle Fire - Exposure	65	43	22	51.1
Vehicle Fire	409	463	-54	-11.6
Vehicle No-Alarm Fire	2	1	1	100.0
Rubbish Fire (No Dollar Loss)	1,009	1,098	-89	-8.1
Grass Fire (No Dollar Loss)	105	62	43	69.3
Chimney or Flue Fire (No Dollar Loss)	16	17	-1	-5.8
Furnace or Stove Malfunction	56	48	8	16.6
Explosion (No Fire)	4	7	-3	-42.8
Assistance to other Fire Departments	43	26	17	65.3
Washdown (Hazardous Products)	685	769	-84	-10.9
Natural Gas Leak	64	61	3	4.9
Propane Gas Leak	75	61	14	22.9
Radio-Active Material Problem	1	1	0	0.0
Other Dangerous Goods - Spill or Leak	83	70	13	18.5
Ruptured Water/Steam Pipe	351	297	54	18.1
Power Lines Down/Arcing	337	335	2	0.5
Bomb/Explosive Removal/Standby	5	3	2	66.6
Other (Public Hazard)	169	132	37	28.0
Vehicle Extrication	41	49	-8	-16.3
Persons Trapped in Elevator	645	486	159	32.7
Other (Rescues)	69	39	30	76.9
Accident - Vehicle (No Fire)	436	288	148	51.3
Accident - Home or Residential Property	6	6	0	0.0
Accident - Commercial, Indust. Property	19	23	-4	-17.3

ANNUAL RESPONSE TYPE LISTING

Number of Runs Response Type	This Year	Last Year	Difference	%
Resuscitator - Asphyxia or Resp. Condition	714	627	87	13.8
Resuscitator - Convulsions	379	275	104	37.8
Resuscitator - Electric Shock	9	5	4	80.0
Resuscitator - Traumatic Shock	17	7	10	142.8
Resuscitator - Drowning	5	8	-3	-37.5
Resuscitator - Heart Attack	1,090	777	313	40.2
Resuscitator - Drug Related Condition	467	236	231	97.8
Resuscitator - Not Required on Arrival	5,560	4,926	634	12.8
Resuscitator - Other	773	416	357	85.8
Malicious False Alarm - Resid. Occup.	2,122	2,103	19	0.9
Malicious False Alarm - Educ. Occup.	69	55	14	25.4
Malicious False Alarm - Other	1,342	1,196	146	12.2
Alarm No Fire - Sprinkler Pressure Surge	438	317	121	38.1
Alarm No Fire - Detector Activated	2,032	1,733	299	17.2
Alarm No Fire - Equipment Malfunction	2,759	2,854	-95	-3.3
Alarm No Fire - Smoke/Steam Mistaken	1,955	2,082	-127	-6.0
Alarm No Fire - Unknown Odour Investigated	1,091	1,129	-38	-3.3
Alarm No Fire - Accidental	1,189	1,101	88	7.9
Alarm No Fire - Other	222	157	65	41.4
Assistance to Police or Other Agencies	3,446	3,910	-464	-11.8
First Aid	4,277	4,196	81	1.9
Other Public Service	970	1,037	-67	-6.4
Authorized FD Activated Activities	0	3	-3	-100.0
Total Incidents	37,998	36,002	1,996	5.5
Total Responses excluding No Alarm and Exposures	37,730	35,744	1,986	5.5

ANNUAL RESPONSE TYPE LISTING
(DOLLAR LOSS)

Response Type	Dollar Loss This Year	Last Year	Difference	%
Fire	18,245,873	13,746,984	4,498,889	32.7
No-Alarm Fire	1,204	30,399	-29,195	-96.0
Exposure Fire	873,153	1,588,129	-714,976	-45.0
Vehicle Accident or Collision w/Fire	40,010	39,625	385	0.9
Vehicle Fire - Exposure	84,651	107,595	-22,944	-21.3
Vehicle Fire	810,185	1,297,471	-487,286	-37.5
Vehicle No-Alarm Fire	1	3,000	-2,999	-99.9
Sub-Total Fires	20,055,077	16,813,203	3,241,874	19.2

Despite the Department's prevention and inspection efforts and the availability of low-cost smoke alarms, single-family homes still account for the majority of fires and related deaths.

SOURCE OF IGNITION
BY PROPERTY CLASSIFICATION

Property Classification	Cooking Equipment	Electrical Distribution Items	Heating Equipment	Appliances/ Home Articles	Lighting Equipment	Other Electrical/Mechanical	Smokers' Articles	Open Flame	Miscellaneous	Exposure	Total Number of Incidents	Dollar Loss
Residential:												
Detached, Semi-detached Dwelling	180	49	51	10	18	7	67	67	44	44	537	3,053,032
Attached Dwelling	19	4	6	4	2	1	14	10	11	14	85	3,685,401
Rooming, Boarding, Lodging House, Group Home	15	3	3	1	1	•	41	9	11	4	88	1,124,852
Multi-Unit Dwelling	205	32	16	12	11	6	249	52	72	6	661	3,682,327
Dual Purpose Dwelling - Residential with Business	7	4	2	2	1	•	15	4	5	9	49	433,276
Mobile Home	•	•	•	•	•	•	1	1	1	•	3	4,400
Residential - Other	2	2	2	•	2	2	13	15	33	54	125	510,839
Residential - Unclassified	5	1	•	1	•	•	3	1	2	1	14	2,670
Residential - Total	433	95	80	30	35	16	403	159	179	132	1,562	12,496,797
Assembly:												
Theatre, Auditorium	•	1	•	•	1	1	1	1	•	•	5	11,900
Museum, Art Gallery, Library	•	1	1	•	•	•	•	•	•	•	2	2,060
Recreation/Sports Facility	1	•	3	1	•	1	4	1	5	•	16	81,330
Education Facility	3	2	•	•	1	2	8	11	10	1	38	93,722
Religious Facility	2	•	1	•	1	•	1	•	1	2	8	186,530
Assembly - Unclassified	1	•	•	•	•	•	1	1	•	•	3	205
Assembly - Total	7	4	5	1	3	4	15	14	16	3	72	375,747

SOURCE OF IGNITION
BY PROPERTY CLASSIFICATION

Property Classification	Cooking Equipment	Electrical Distribution Items	Heating Equipment	Appliances/ Home Articles	Lighting Equipment	Other Electrical/Mechanical	Smokers' Articles	Open Flame	Miscellaneous	Exposure	Total Number of Incidents	Dollar Loss
Institutions:												
Medical Facility	7	3	1	3	•	2	23	3	2	•	44	68,496
Legislative or Court Facility	•	•	•	•	•	•	1	•	3	•	4	8,006
Institutional - Unclassified	•	•	•	•	•	1	1	3	•	•	5	412
Institutions - Total	7	3	1	3	•	3	25	6	5	•	53	76,914
Commercial I:												
Food, Beverage Sales	5	3	•	2	1	2	5	2	6	4	30	225,612
Furniture, Appliance Sales and Service	•	1	2	•	•	•	•	1	•	1	5	7,250
Hardware, Building Supplies	•	•	•	•	•	•	3	•	6	2	11	9,700
Textiles, Wearing Apparel Sales	•	1	2	•	4	1	4	1	1	6	20	18,136
Vehicle Sales/Service	•	3	3	•	1	1	4	6	2	•	20	295,420
Department, Catalogue, Variety Store	•	2	•	1	1	•	2	•	2	•	8	142,575
Specialty Sales/Service	1	4	1	5	1	4	7	1	6	3	33	67,427
Utilities	•	5	•	•	•	•	•	•	1	•	6	8,150
Commercial I - Total	6	19	8	8	8	8	25	11	24	16	133	774,270

SOURCE OF IGNITION
BY PROPERTY CLASSIFICATION

Property Classification	Cooking Equipment	Electrical Distribution Items	Heating Equipment	Appliances/ Home Articles	Lighting Equipment	Other Electrical/Mechanical	Smokers' Articles	Open Flame	Miscellaneous	Exposure	Total Number of Incidents	Dollar Loss
Commercial II:												
Hotel, Motel, Lodge, Inn	3	2	•	4	1	2	20	2	4	•	38	316,982
Food, Beverage Establishment	43	12	3	2	1	1	14	2	12	6	96	808,206
Business or Personal Services	•	5	1	•	1	•	3	2	1	•	13	13,726
Office Facility	1	11	7	1	1	4	18	6	12	6	67	466,637
Transportation Facility	•	6	2	•	1	2	33	•	7	•	51	6,002
Communications Facility	•	2	•	•	•	•	•	•	•	•	2	2,200
Commercial - Unclassified	1	7	2	•	3	•	9	8	9	6	45	105,876
Commercial II - Total	48	45	15	7	8	9	97	20	45	18	312	1,719,629
Manufacturing/Processing:												
Chemical, Petroleum, Paint, Plastic Products	•	•	1	•	•	2	•	•	1	•	4	231
Agricultural Products - Food, Beverages, Tobacco, etc.	•	1	2	1	•	•	2	6	1	•	13	179,905
Textiles, Clothing, Leather Goods	1	4	2	•	•	3	4	2	4	•	20	631,640
Wood, Furniture, Paper Products, Printing	•	2	•	1	1	•	1	2	4	•	11	511,600
Vehicles	•	1	•	•	•	•	•	•	•	1	2	12,550
Other Metal, Electrical or Miscellaneous Products	•	1	•	1	•	3	•	2	2	1	10	12,901
Manufacturing/Processing - Unclassified	•	1	3	•	•	5	1	2	4	•	16	101,390
Manufacturing/Processing - Total	1	10	9	2	•	14	8	14	16	2	76	1,450,217

SOURCE OF IGNITION
BY PROPERTY CLASSIFICATION

Property Classification	Cooking Equipment	Electrical Distribution Items	Heating Equipment	Appliances/ Home Articles	Lighting Equipment	Other Electrical/Mechanical	Smokers' Articles	Open Flame	Miscellaneous	Exposure	Total Number of Incidents	Dollar Loss
Warehouse and Storage:												
Warehouse	•	3	1	•	•	•	6	7	4	3	24	121,227
Elevator	•	•	•	•	•	•	•	1	1	•	2	5,001
Tank, Tank Farm	•	•	•	•	•	•	•	1	•	•	1	50
Open (Outdoor) Storage	1	•	•	•	•	•	•	3	1	•	5	25,100
Other Storage Facilities	•	•	•	•	•	1	2	2	3	2	10	2,025,205
Warehouse and Storage - Total	1	3	1	•	•	1	8	14	9	5	42	2,176,583
Miscellaneous Structure/Property:												
Miscellaneous Structure/Property	•	4	1	•	1	1	43	16	16	15	97	46,721
Miscellaneous Property	3	•	•	•	•	•	5	3	7	•	18	3,352
Miscellaneous Structure/Property - Total	3	4	1	•	1	1	48	19	23	15	115	50,073
Vehicles:												
Road Vehicles	•	•	•	•	•	•	•	•	395	64	459	866,711
Rail Vehicles	•	•	•	•	•	•	•	•	19	•	19	23,311
Water Craft	•	•	•	•	•	•	•	•	3	•	3	41,000
Miscellaneous or Specialty Vehicles	•	•	•	•	•	•	•	•	6	1	7	3,825
Vehicles - Total	•	•	•	•	•	•	•	•	423	65	488	934,847
Grand Total	506	183	120	51	55	56	629	257	740	256	2,853	20,055,077

FIREFIGHTING DIVISION

The officers and firefighters of the Firefighting Division put their lives on the line every time they respond to an emergency. They are the ones who endure the hardships and face the dangers. They are the ones we count on to protect our lives and our property.

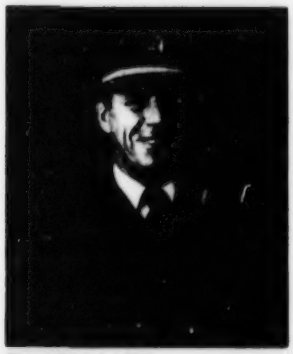
During 1988, the people of Toronto called upon these brave men and women 37,730 times. This represents a 5.5 percent increase over the previous year's emergency calls.

Toronto firefighters extinguished 3,711 fires. These included 2,174 building fires, 1,114 incidences of burning rubbish or grass, and 423 vehicle fires. Total estimated loss from these incidents was $20,055,077 compared with $16,813,203 in 1987.

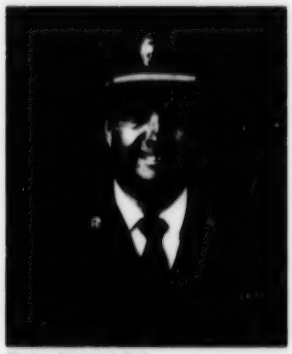
There were 24 fatalities as a result of fires during 1988, and 137 civilians injured. This is the highest level since 1980. Given the availability of inexpensive smoke detection devices and the Department's efforts promoting fire safety, it is a depressing and perplexing turn of events.

The worst single incident during 1988 was a January 7 house fire at 86 Walpole Avenue that claimed four lives.

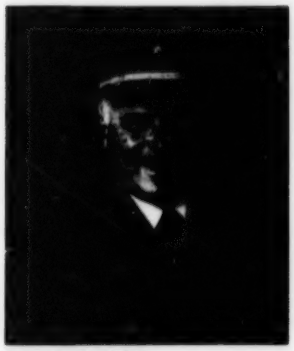
Although 258 firefighters suffered job-related injuries during the year, considerably more than 1987's total of 152, none died in the line of duty.



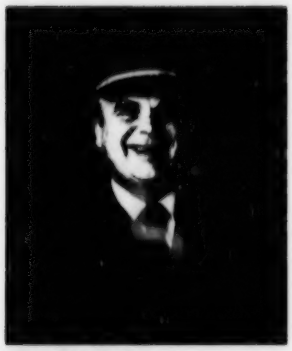
Platoon Chief, A-1 Shift
John Kirk



Platoon Chief, A-2 Shift
Lorne S. Buckingham



Platoon Chief, B-1 Shift
Kenneth M. Jones



Platoon Chief, B-2 Shift
Alexander M. Ritchie

Canada's busiest fire apparatus

Pumper No. 7 of the Dundas Street Station regained its title as Canada's busiest fire apparatus during 1988 by responding to 4,160 emergencies. This was six more calls than their nearest "rival" and last year's record holder, Pumper No. 3 of the Grosvenor Street Station.

Average response time for emergency vehicles on a Department-wide basis was a fraction over two minutes. This is a considerable achievement, given the growing traffic problems in the City. Congestion is particularly severe in the downtown area, where the majority of the Department's emergency runs take place.

In addition to battling flames and rescuing people, Toronto firefighters responded to 16,737 medical emergencies and 9,686 public service calls during 1988. Qualified in first aid and cardio-pulmonary resuscitation, firefighters often initiate life support services, prior to the arrival of ambulance personnel or paramedics. Public service calls can involve everything from cleaning up spills of hazardous materials (a growing problem), to freeing people trapped in elevators.

More than 3,500 of the emergency calls received by the Department during 1988 were malicious false alarms. This practice is not merely annoying, it represents a serious threat to the safety of firefighters and the community they protect. The potential for accident and injury always exists when fire crews respond to an alarm. These types of calls also tie up equipment and crews that may be needed for a real emergency elsewhere.

Fire prevention efforts

When they're not putting out fires, firefighters work hard to prevent them. In fact, they are essential to the Department's many activities aimed at reducing the likelihood of fire, and alerting the public to its dangers.

Three of the Department's fire prevention measures involve on-site inspections by firefighters: the Home Inspection Program, the Occupancy Safety Check Program, and the Pre-Fire Planning and Inspection Program. These are described in detail in the Fire Prevention Division report. There is also an explanation of how firefighters educate children and adults about home fire risks, and how they support media and public relations efforts.

The Department has an enviable profile in the community. Again, this is due largely to the tireless efforts of firefighters. They are the ones who give of their time to help the needy and less fortunate.

Supporting worthy causes

Firefighters will go to any lengths, or heights, to support a worthy cause. For example, off-duty firefighters, their families and friends climbed Toronto's CN Tower, the world's tallest free-standing structure, last year. Pledges were donated to the Hospital for Sick Children's Capital Campaign.

Firefighters traded their protective gear for aprons and faced a different kind of heat when they flipped hamburgers and served Big Macs in aid of McDonald's Childrens Charities of Canada.

Each year, members of Local 113 of the International Association of Fire Fighters hold what they call their "Boot Drive." What happens is off-duty firefighters visit shopping malls in the Toronto area and ask shoppers to contribute money to help "Jerry's Kids." Donations, which are gathered in the protective "hip-waders" worn by firefighters, go to support the Canadian Muscular Dystrophy Association's research program.

Off-duty firefighters also collected funds for the Canadian Children's Foundation. Money raised by staffing booths over the Christmas period helped finance an emergency phone line for abused and troubled kids.

Toronto fire stations served as drop-off locations for charity drives collecting food and clothes. The Daily Bread Food Bank and the Hurricane Gilbert Relief Fund were two of many community-minded efforts supported during 1988.

Specialized fire fighting equipment

The Toronto Fire Department is recognized world-wide as being an innovator in the development and application of emergency-response technology and procedures. This reputation, while earned, is largely the end product of necessity. Protecting, as it does, a growing and increasingly complex city, the Department faces unique challenges that can appear literally overnight. To overcome these problems, the Department has created firefighting aids and apparatus.

There are numerous examples of necessity being the mother of invention. When the Department found its effectiveness compromised when fighting fires in high rise buildings, it created a new system for storing and transporting firefighting equipment. [See story on High Rise 1.] Similarly, when hazardous materials became a concern, a one-of-a-kind emergency-response vehicle was developed. Known as Hazard 1, this unit serves as a mobile command centre when chemical spills and other emergencies involving hazardous materials occur. Reflecting the growing number of these types of incidents, the Department has established a support office for Hazard 1 in an existing fire station. Equipped with an extensive reference library, this office serves as a base for the crew of specialist firefighters who respond to these types of emergencies.

The Department has also been quick to add new fire fighting equipment as it becomes available. It was one of the first fire departments in North America to bring on-stream the new generation of aerial towers with articulating booms. The articulating feature has proven invaluable when trying to work around overhead hydro and streetcar cables. These new apparatus also have pumps which supply water directly to the platform at the end of the boom, where the firefighters stand.

TFD DEVELOPS HIGH RISE RESPONSE VEHICLE

Many cities have experienced tremendous growth in recent years. In Toronto, this expansion primarily has been in two directions: straight up, and underground.

The City's skyline has been redefined during the past decade by the addition of several skyscrapers. These so-called mixed-use developments, with their many floors of office space, and network of interconnected pedestrian shopping malls below the streets, present firefighters with a new set of challenges. The seriousness of this problem and the need to develop new methods of response were made fatally clear in the summer of 1982.

It was then that a fire broke out on the 18th floor of an apartment/hotel complex at 88 Bloor Street East, steps from one of the City's busiest downtown intersections.

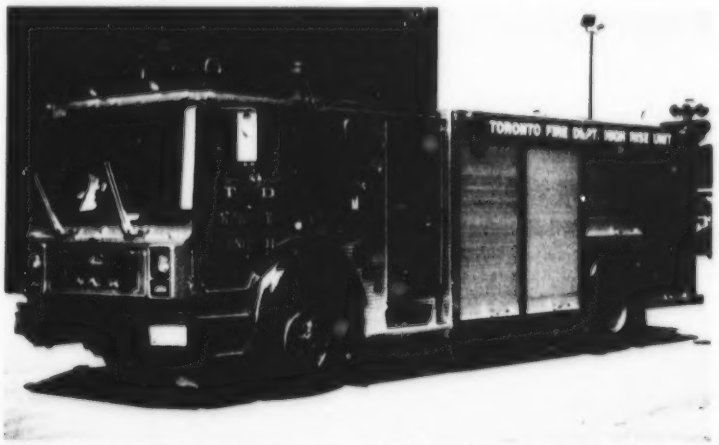
The blaze disabled the building's power system, and a back-up generator failed. As a result, firefighters were forced to carry all of their equipment and hose up 18 flights. This cost precious time, and left several firefighters completely exhausted.

Following this fire, which claimed one life, the Ontario government held a public inquiry into the problems associated with responding to emergencies in high rise buildings. Soon after, the Toronto Fire Department began developing a vehicle with capabilities that would help overcome the problems experienced during the tragic Bloor Street incident.

High Rise 1 became operational in 1988. This unique apparatus is a customized, turbo-charged Mack diesel that carries 12 specially designed aluminum modules. Inside each is a carefully selected group of firefighting equipment. These modules contain hose, air cylinders, ventilation equipment, first aid material, search and rescue gear, generators, lights, protective covers, and a portable command centre.

One firefighter can now move what three firefighters would previously have had difficulty shifting, thanks to these compact modules which are equipped with wheels and caterpillar-style stair climbers.

Working from Adelaide Street Station No. 1, the High Rise unit responds to all emergency calls involving buildings six floors or higher in Wards 4, 5, and 6, where the majority of Toronto's office towers are located. High Rise 1 also responds to all incidents involving underground pedestrian malls, or when smoke is reported in high rise buildings anywhere in the City.



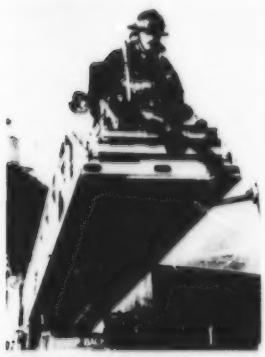
High Rise 1 transports lightweight and portable containers of firefighting equipment to emergencies involving high rise buildings and underground pedestrian malls.

Water supply improved

Since the days of the bucket brigades in the 1800s, ensuring an adequate supply of water for fighting fires has been a top priority with the Department. A change in hose lines and an adaptation to fire hydrants during 1988 made this goal considerably closer to becoming a reality.

A switch from 65-mm suction lines to 100-mm large volume hose reduces water flow resistance and allows pumpers to make full use of the total capacity of the available water supply. At the same time, the City has been replacing older fire hydrants throughout the City with models that have quick-connect outlets for the new 100-mm hose. Until the replacement program is completed, all TFD pumpers will carry 65-mm/100-mm adapters, allowing them to make use of the new large-volume hose, even when older-style hydrants are all that's available.

The Department continues to upgrade its fire stations. Dundas Street Station No. 7 received $600,000 worth of much-needed improvements during 1988.



The business end of an aerial.

All in a day's work: battling a stubborn commercial blaze.

This money was spent on upgrading the kitchen, heating, air conditioning, and adding a hose tower. The apparatus floor at Montgomery Avenue Station No. 28 was replaced during the year.

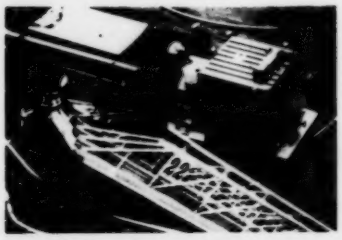
A new station for the Toronto Island is planned and awaiting approval. The Department is also hopeful that a station can be added to serve the Harbourfront area. Bounded by Bathurst Street, Sherbourne Street, Front Street, and the Lake, this area has undergone significant changes in recent years. Almost exclusively industrial at one time, it now contains residential housing and the newly-opened SkyDome stadium. Earmarked for future development, this downtown district already attracts large numbers of residents and visitors. The resulting traffic congestion has hampered the response time of emergency vehicles serving the area.

HEADLINE-MAKING MULTIPLE-ALARM FIRES

While many fires contain drama, danger, and tragedy, it is the major emergencies involving large numbers of firefighters that capture the headlines and the public's attention. There were 22 such multiple-alarm fires in Toronto during 1988. Eighteen were second-alarm incidents, the other four were third-alarm fires. Only quick responses and a high level of competence on the part of firefighters kept the number from being higher. Following are descriptions of three of the most spectacular blazes in the City during 1988.

222 Bay Street

Toronto was in the world spotlight during the month of June, as political leaders from the United States, Great Britain, France, Japan and Italy gathered here for an economic summit, hosted by Canada's Prime Minister.



Manoeuvring to set up a water tower.

In the early hours of Tuesday, June 21, a security guard at the Toronto-Dominion Centre reported a small fire at the rear of a partially-demolished office building at 222 Bay Street. This was two blocks away from the Royal York Hotel where President Reagan was staying under tight security.

Firefighters responding to the call reported fire visible on the building's ground floor. These flames quickly spread, and District Chief Barben requested a second-alarm response.

Four pumpers, two aerials, a rescue squad, and Platoon Chief Kirk joined the two pumpers and aerial already battling the fire. After establishing his command post in front of the burning building, the Platoon Chief quickly realized the need for additional firefighting forces. His request for help brought three more pumpers and one more aerial to what was now a major third-alarm incident.

Aided by holes in the floors created by demolition workers, and by window openings and stairwells, the fire quickly engulfed all five floors of the building. The intense heat created by the inferno exploded a propane tank left behind by a demolition worker. Heat from the fire also shattered windows as high as the 41st floor on the nearby Toronto-Dominion Centre. The falling glass created a serious threat to firefighters working on the streets below. Ten firefighters would receive injuries while battling the blaze.

Another major worry was the threat from flying embers in this built-up area. To help contain the blaze, and reduce this threat, the aerials set up water tower operations at the rear of the burning building to protect nearby exposures.

By the time the fire was brought under control, 222 Bay Street was totally gutted. Three adjacent buildings on Bay Street and the Toronto-Dominion Centre on Wellington Street were also damaged. Total damage was estimated at $217,000.

An investigation by the Ontario Fire Marshal's Office concluded that the fire was incendiary in nature.

The media army covering the Summit made this fire front-page news around the globe.

901 Adelaide Street West

A retirement dinner at Claremont Street No. 2 Station was interrupted by an alarm rung in at 2034 hours on the evening of Wednesday, June 29. The firefighters realized that this time they were going to fight a good-sized fire as thick black smoke could be seen in the distance.

Arriving at the fire scene, a major residential construction site at the intersection of Adelaide and Massey streets, the firefighters' worst fears were realized. A block of four-storey townhouses which were 80 percent complete were engulfed in flames. District Chief Dutka promptly called for reinforcements. Two minutes later, he radioed for additional support, when most of the houses on the project's south side burst into flames.

Aftermath of the "firestorm" that rolled through a partially-completed condominium townhouse complex at Adelaide and Massey streets.

This awesome third alarm blaze generated fire storm conditions. Carried along by stiff north-westerly winds, a wall of flames tore through the partially-built condominum complex. Without brickwork or drywall panels the buildings offered no resistance to the rolling waves of fire.

Radiant heat from the inferno ignited unfinished homes on the north side of the complex and set fire to the roof of an empty warehouse across the street. Flying embers carried by the high winds created dozens of smaller fires throughout the downtown neighbourhood. Police needed 100 crowd control barriers to contain the masses of people drawn to the spectacular blaze.

Before the fire, this complex had consisted of 70 stacked townhouses in various stages of completion. Built around a central courtyard, the development covered an entire City block. The blaze totally destroyed 54 of these units, and heavily damaged the remaining 16. Damage was estimated at $3,000,000.

Twenty-two pieces of fire apparatus and 74 firefighters were involved in extinguishing this conflagration.

Narrow access routes hampered firefighting operations at the year's second most costly fire at a Bay Street car dealership. Eight firefighters were injured battling this $1.8 million blaze that destroyed 150 cars.

636 Bay Street

Arriving for work, employees at this downtown car dealership found and extinguished a small fire. They reported the suspicious incident to the Toronto Fire Department. About an hour later, at 0845 hours, another fire was discovered near the first. Responding firefighters found heavy smoke pouring from the basement at the rear of the Bay Street building.

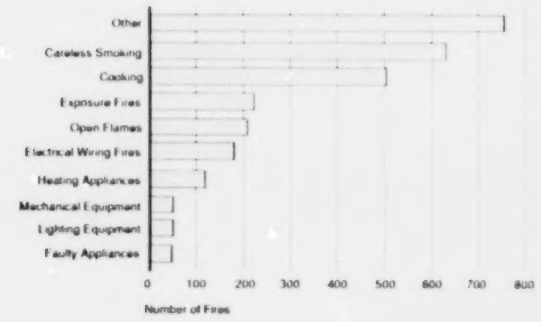
This second blaze was seated in the bottom of an unused elevator shaft. Flames soon spread through ductwork to the first floor, igniting several cars on display. The resulting explosions blew out the showroom's large plate glass windows. Acting District Chief Shannon quickly requested a help call. Meanwhile, fire crews conducted a search of the building. Several people were evacuated from inside, and a man trapped on the roof was rescued by the crew from Aerial No.8.

By now, the flames had spread to the building's upper floors. The fire's advance was accelerated by the fact that the original elevator doors had been replaced with plywood substitutes. Recognizing that the fire was gaining momentum and strength, Acting Platoon Chief Thompson upgraded the emergency to a second-alarm level, and soon after to a third.

Eight firefighters were injured extinguishing this inferno which destroyed 150 cars and caused an estimated $1.8 million in damages.

The fire was investigated by the Ontario Fire Marshal's Office and the cause was determined to be incendiary.

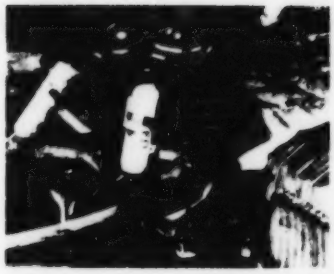
MOST COMMON SOURCES OF IGNITION 1988



MULTIPLE-ALARM FIRES

Date	Time (hrs)	Address	Occupancy	Cause	Alarm
Februrary 10	1541	257 Niagara St.	industrial	accidental	2nd
April 15	0710	49 Donlands Ave.	church	incendiary	2nd
April 16	0133	410 Keele St.	apartment	incendiary	2nd
May 14	2047	2304 Queen St. E.	apartment	careless smoking	2nd
May 30	0612	396 Lansdowne Ave.	rooming house	accidental	2nd
June 21	0031	222 Bay Street	vacant	incendiary	3rd
June 29	2034	901 Adelaide St. W.	attached dwellings	undetermined	3rd
July 5	1608	2260 St. Clair Ave. W.	industrial	welder's torch	3rd
July 30	1202	44 Charles St. W.	apartments	pyrolysis	2nd
September 4	2322	43 Pembroke St.	rooming house	undetermined	2nd
September 26	0332	384 Queen St. E.	residential	incendiary	2nd
September 27	0845	636 Bay St.	office building	incendiary	3rd
October 1	0327	105-111 Cambridge Ave.	residential	incendiary	2nd
October 13	0220	1199 Queen St.W.	industrial	undetermined	2nd
October 29	0323	10 Lydia Court	under construction	incendiary	2nd
November 21	2123	46 Berkeley St.	under demolition	vandalism	2nd
November 22	1836	20 Trinity St.	industrial	undetermined	2nd
December 12	0304	555 Danforth Ave.	restaurant	careless smoking	2nd
December 12	1555	48 Boultbee Ave.	residential	incendiary	2nd
December 22	0956	450 Dufferin St.	industrial	undetermined	2nd
December 27	1645	77 Howard St.	apartment	electrical	2nd
December 30	1149	2200 St. Clair Ave. W.	industrial	welder's torch	2nd

COMMUNITY AWARD
RECOGNIZES BRAVERY OF TFD FIREFIGHTERS



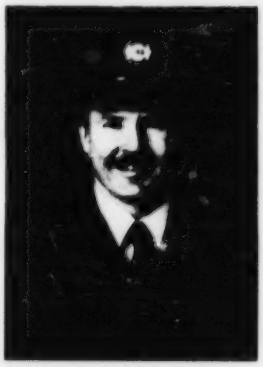
City of Toronto firefighters Don Beam, 32, and Don Bray, 35, were named 1987 Firefighters of the Year by the Toronto Junior Board of Trade/Toronto Jaycees, for their courageous actions during a February 14 house fire.

When the aerial and pumper crews from Lansdowne Avenue Station No. 15 arrived at the scene, shortly after 2300 hours, dense smoke was escaping from the basement windows and flames were shooting from the rear of the Roncesvalles Avenue home.

In an attempt to play water on to the seat of the fire, Firefighter Beam worked his way into the basement with a 38-mm hose line. At the same time, Firefighter Bray entered the basement in search of a victim reported trapped inside. The two firefighters soon fought their way through the intense smoke and heat to within a few metres of the fire's source. Hearing Bray's calls for help, Beam left his hose line and started searching for his yelling comrade. Although only centimetres apart, the zero visibility caused by the dense smoke, and the unfamiliar layout of the basement, made it extremely difficult for the two firefighters to make contact. Eventually, they did meet, and together they struggled over scattered furniture to carry the unconscious man out of the basement inferno and up a flight of stairs to safety.

Recipients of the Firefighter of the Year Award are chosen by a panel of media judges from a short list of candidates suggested by the Department.

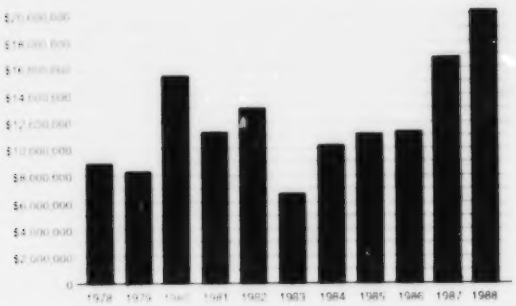
Firefighter Bray also received a medal of valour from Firehouse magazine as the 1987 winner of the professional journal's Heroism and Community Service Award.



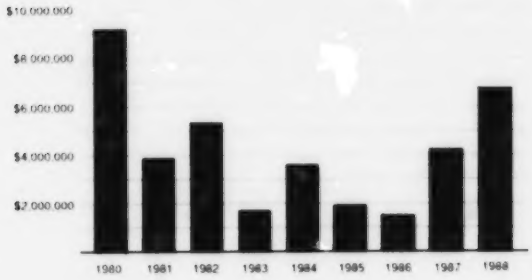
Firefighter Donald K. Bray

Firefighter Donald E. Beam

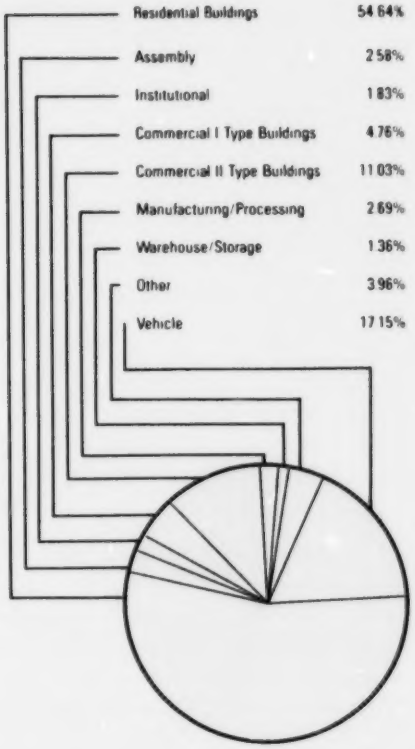
FIRE DOLLAR LOSSES 1978 - 1988



DOLLAR LOSSES DUE TO ARSON 1980 - 1988



1988 STRUCTURAL, VEHICLE FIRES BY CLASSIFICATION



"NOT EVERYONE HAS WHAT IT TAKES TO BE A FIREFIGHTER"

When the Toronto Fire Department needs firefighters, it doesn't advertise the fact, it issues a challenge. "Become your best by joining the best," the ads and posters say, "Challenge yourself in a job that really counts." The message is clear: the weak-at-heart need not apply. As the Department's career guide states: "Not everyone has what it takes to be a firefighter."

The Department's standards are high and they want would-be firefighters to know it. Those who plan on applying are told to shape up ahead of time by participating in aerobic and weight training exercises.

Many take up the challenge, but few have the combination of the various attributes that are demanded of firefighters.

The Department receives, on average, 3,000 applications in response to its ads, which appear in the City's daily newspapers and various ethnic publications.

Traditionally, positions become available as a result of retirements. Despite the danger and the pressure, few firefighters quit. In fact, the majority make the Department a lifetime career.

Applications to become probationary firefighters are first reviewed by the City's Personnel Services Division. Applicants whose qualifications reflect the job requirements are given a written aptitude test. This test measures the candidate's ability to understand written and/or verbal information, their reading, reasoning, and mathematical skills, in addition to their mechanical aptitude.

Those who do well are given a health and medical evaluation, undergo timed, job-related performance tests, and appear before an interview board. These phases in the screening process take place at the Toronto Fire Academy and the interviews are conducted by Fire Department and Management Services personnel.

Candidates for probationary firefighter positions wear vests and ankle weights to approximate the heaviness of protective gear during job-related performance tests.

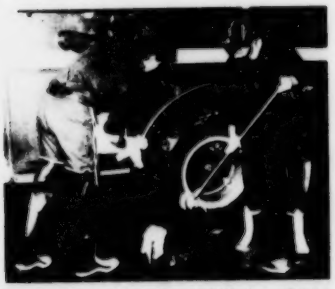
Testing in all cases is designed to recreate as closely as possible real-life working conditions.

The fitness assessment is actually a series of tests. A candidate's cardio-respiratory capacity is measured by monitoring reactions to either a box-step test or time spent on a treadmill. Skin fold measurements are taken to determine the candidate's body fat, a stretching test reflects muscle flexibility and sit-ups measure abdominal strength to identify people who may be pre-disposed to back injury.

The performance tests consist of eight separate challenges: weight carry, ladder climb, ladder lift, rope pull, hose carry, hose drag, victim drag test, and tunnel test. The latter involves wearing a blacked-out face mask and crawling on hands and knees through an obstacle-strewn, bi-level tunnel, before exiting backwards down a flight of stairs. This exercise determines an applicant's ability to function in conditions approximating a smoke-filled room.

During all the performance tests applicants wear a weighted vest and ankle weights that approximate the heaviness of the clothing and self-contained breathing apparatus worn by firefighters. The screening process employed in the selection of firefighters is physically and emotionally demanding — it has to be. Lives depend on a firefighter's ability and courage.

The action heats up as recruits learn how to bring a fire under control. A back-up team stands by just in case.



The cleanlinesss of Department vehicles is a reflection of the importance placed on equipment maintenance.

Resuscitating a "victim" during a simulated large-scale emergency.

TFD TEAM SUCCESSFULLY DEFENDS TITLE AS ONTARIO'S FIRST AID EXPERTS

Toronto firefighters successfully defended their standing as Ontario's first aid experts, by placing first overall in the Annual Provincial First Aid Competition, held in Toronto. Only once before, in 1974, had a team accomplished back-to-back first-place finishes.

Organized by the St. John Ambulance, the 18th Annual Provincial First Aid Competition attracted 48 teams from throughout Ontario. A wide range of professions were represented: the police, the military, the railways, the nuclear power industry, the mining industry, other fire services and St. John Ambulance.

Volunteers acted as victims. Teams were given the same realistic wounds and injuries to deal with. Contestants were judged on their ability to ensure the safety of the victims, whether bandages were applied correctly and in the proper places, and if help was summoned effectively. Treatment time was only a deciding factor in the event of a tie.

The Fire Department's winning team included Firefighters John Morrison, Rick Annis, Mark Stewart, Barry Locke, Brien White, and Rob Dies. They were coached by Pat Vousden and Cecilia McKenzie of the St. John Ambulance.

The Department's team celebrates its sweep of the Annual Provincial First Aid Competition. Besides placing first overall, for the second consecutive year, the TFD team also won two other awards: the Levitt Trophy as best in their class, and the senior men's honours.

In addition to winning the Earle C. Morgan Trophy for highest overall score in the Competition, the TFD team also won the Levitt Safety Shield for the fourth consecutive year, and the Senior Men's Trophy for the second time in a row.

The Levitt Safety Shield is awarded to the team of firefighters entered in the Competition with the greatest skill in cardio-pulmonary resuscitation and first aid.

The team then went on to compete in the International Rescue and Emergency Care Competition (I.R.E.C.A.). The 41st Annual I.R.E.C.A. Conference took place in Charlottetown, P.E.I. The Toronto Firefighters finished in seventh place against 27 teams from Canada, the United States and Great Britain.

ADMINISTRATION DIVISION

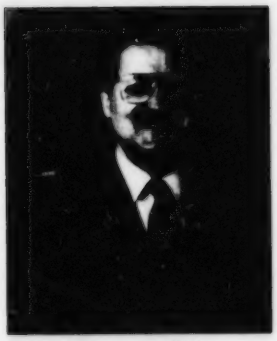
With input from directors and platoon chiefs, Administration Division personnel managed an operating budget in excess of $70 million in 1988. The majority of this budget – more than $66 million – was spent on salaries and benefits for the Department's 1,300 staff. The balance went towards equipment, supplies, and materials.

In addition to their budget-related duties, the Division's 12 employees process payroll and personnel paperwork on a Department-wide basis, provide clerical and secretarial support to a number of TFD divisions, oversee all of the Department's purchasing transactions, and facilitate many head office functions, including mail delivery and telephone reception.

Greater Role for Computers

Reflecting the growing importance and widespread application of computers throughout the Department, the Administration Division has, since 1987, been responsible for co-ordinating the use and development of related technology, and training personnel in its application.

During 1988, the Department added eight personal computers, bringing its total to 23. This new hardware, along with a number of customized software programmes, have enabled the Department to automate many of its administrative activities. One of the most innovative applications of technology allows firefighters and command personnel to order uniforms from a computerized database that contains their measurements.



Director of Administration Division V. James Sordi

Spearheaded '88 Recruitment Drive

As noted in the Chief's report, the Administration Division spearheaded the 1988 recruitment drive, with its focus on increasing probationary firefighter applications from women and visible minorities.

Administration Director Jim Sordi headed up a career awareness planning committee that included a project manager, a male and female firefighter, and representatives of the City's Communication Services, Personnel, and Equal Opportunity Divisions.

Uniformed personnel rely on their civilian colleagues in Administration for a wide range of support services.

This team was responsible for staging career information sessions in the City's elementary and secondary schools, community colleges, and universities. With the assistance of ethnic and community leaders, the Department also made presentations to the City's Chinese, Black, Native, Portuguese, Spanish, and Filipino communities.

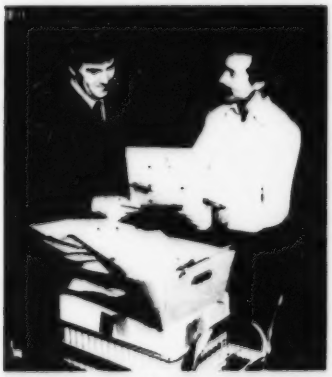
During the summer, a series of career-oriented open houses were held at the Toronto Fire Academy, attracting more than 1,000 people.

Supporting these outreach efforts were displays in shopping centres in culturally-diverse neighbourhoods, and advertisements in Toronto's ethnic and daily newspapers and in bus shelters. A strong public relations effort brought additional exposure for the recruitment drive through coverage in local and national print and broadcast media.

As a result of these and related efforts, the Department received more than 2,000 applications for openings as probationary firefighters. Following an intensive screening process that included aptitude and physical suitability tests and interviews, 172 applicants were chosen. This group, which includes two women and ten visible minority males, will be offered positions during 1989 and 1990.

(Prior to the 1988 recruitment drive the Department had six women and 14 visible minority male uniformed employees, in a complement of 1,287.)

Encouraged by the public response to its ground-breaking 1988 recruitment drive, the Department will continue to actively seek applications from men and women who reflect the City's cosmopolitan nature.



Mail delivery is one of several head office functions provided by Administration staff.

Computers play an important role in the Department's day-to-day operations.

MEDICAL DIVISION

Director of Medical Division
Doctor Noah A. Forman

Firefighting is the most dangerous profession there is. Firefighters work in conditions most would flee from – breath-taking heat, smoke-filled rooms and dizzying heights.

These and other dangers, injury, and sometimes death, are realities firefighters face every day. There are also emotional strains that are unique to the profession.

Misunderstood for many years, these psychological pressures are now receiving the attention and treatment they deserve.

Known as Critical Incident Stress, this phenomenon is most often triggered by a traumatic, work-related incident. For firefighters, C.I.S. usually results from a close call with death or serious injury, or from witnessing the death of a colleague, a child, or a large number of fire fatalities. Experiences like these can bring on severe depression, which, in turn, can lead to substance abuse and marital problems.

The physical demands of the job make the firefighter's conditioning and endurance critical.

Caring for both the physical and emotional well-being of firefighters is the responsibility of the Department's Medical Division. Dr. Noah Forman, Safety Officer George Coppin, and Fitness Co-ordinator Terry Buckley work together to provide both preventative and therapeutic care.

Medical Division staff assist firefighter volunteers who offer a confidential counselling service for troubled co-workers and their families. Supported by the firefighters' union, this Employee Assistance Program places those who need help in touch with appropriate health professionals or agencies. It also provides non-judgemental and concerned support.

Clinic plays key role

A daily clinic held at the Toronto Fire Academy plays a key role in caring for firefighters. Here personnel receive initial assessment and treatment for illness and injury. Common job-related injuries include back strains (from lifting heavy equipment and debris), broken bones (resulting from falls), and leg injuries (mostly pulled muscles and sprains which occur when mounting and dismounting apparatus).

But it isn't flames and falls that represent the biggest threat to firefighters. The biggest killer of on-duty firefighters is heart attacks. It's hardly surprising.

Firefighters perform physically demanding tasks under stressful conditions. Lack of warm-up, exposure to extreme heat and cold, and long hours of concentrated effort wearing heavy protective clothing takes its toll on even the fittest firefighters.

Previously, firefighters who suffered heart attacks were unable to return to active duty. An innovative rehabilitation program has been established that enables these firefighters to return to work.

All firefighters are encouraged to pursue a healthy lifestyle by not smoking, by eating well, and by exercising regularly. They receive support, guidance, and training that enables them to assume more responsibility for their personal well-being.

Exposed to communicable diseases

Often called upon to assist victims at fire scenes and accidents, firefighters risk contacting Hepatitis B and AIDS. Firefighters are told how to protect themselves from both viruses, which are present in blood and other body fluids. In the case of Hepatitis B, which attacks the liver, a vaccine exists that provides 100 percent protection. Many firefighters have already taken advantage of a Hepatitis B vaccination program offered by the Medical Division.

A hearing conservation program, also introduced during 1988, has proven equally popular with firefighters.

Consisting of testing, protection, education and monitoring, the program is an attempt to minimize the risk and effect of noise-induced hearing loss. This type of hearing loss, which occurs over a period of time, is permanent and has no known cure.

The threat to firefighters' hearing comes in many forms: repeated exposure to sirens, air horns, truck engines and heavy equipment.

Much of the equipment used by firefighters is cumbersome and heavy, moving it requires strength and teamwork.

Nearly a third of all firefighters had their hearing tested in 1988. Tests continue at the rate of one crew per day. Those tested are advised of the degree, if any, of hearing loss. All firefighters are encouraged to wear ear-plugs which are supplied for their protection. Ear-muffs, which offer more protection, are being tested and will likely be introduced on a widespread basis shortly. These ear-muffs are intended to be worn by firefighters riding on the outside of apparatus while responding to an emergency.

While all Department vehicles and heavy equipment meets Ministry of Labour noise compliance standards, Safety Officer George Coppin is continually exploring ways to reduce firefighters' exposure to potentially-damaging noise levels.

Repeated exposure to roaring fires, wailing sirens, and high-decibel equipment can damage a firefighter's hearing.

Protective clothing tested

Safety Officer Coppin is also testing three types of protective clothing that may prove to be lighter and safer than that currently in use.

He reviews all exposure and injury reports, and makes recommendations to improve equipment and emergency-response techniques. Often he will contact suppliers and pass on his findings, offering suggestions for improvements.

Trouble-shooting existing and possible job-related health risks is only one of many responsibilities for the Safety Officer. He also makes frequent presentations to firefighters on a wide range of safety-related issues, everything from the proper way to operate hydraulic rescue equipment to the protection from diseases and parasites.

According to Safety Officer Coppin, these kinds of presentations, coupled with educational literature, have helped make today's firefighters more safety conscious. Safety measures, such as the introduction of seat belts in all emergency-response vehicles, have also helped reduce the number of job-related accidents.

The Safety Officer, in fact all members of the Medical Division, play an important role in the selection and training of firefighters.

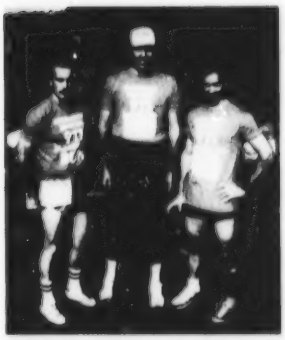
Fitness Co-ordinator Terry Buckley shows the winning form that saw her place first among women competitors in the 9-1-1 Emergency Services Challenge Run.

Fitness assessment revised

The fitness and job-related tests used by the Department in its screening process for probationary firefighters were modified and added to in 1988, following an independent study.

In December of 1988, 278 candidates underwent these revised tests and 172 were successful and have now been placed on the Department's hiring list. They will be offered positions as openings become available, normally as the result of retirements.

Would-be recruits are told to participate in a supervised exercise program, including aerobics and weight training, to prepare for the Department's fitness assessment and physical abilities tests.



Keeping fit can also be fun. These TFD firefighters competed against other emergency services personnel during the 9-1-1 Challenge Run.

Those who successfully pass through the Department's careful screening process find that the emphasis on physical fitness intensifies once they are enrolled at the Fire Academy. Recruit classes are put through 45-minute workouts daily over a six-week period. Led by Fitness Co-ordinator Terry Buckley, these exercise sessions include running, circuit training, aerobics, stair climbing, and volleyball games.

Improving recruits' conditioning

Derived from an in-depth analysis of real-life working conditions, these exercises are designed to improve recruits strength, agility, endurance, co-ordination, manual dexterity, and balance. These attributes and more are needed when fighting fires and rescuing people.

Recruits also receive lectures on important work-related health issues, such as back care, nutrition, on-the-job safety, and heart and lung disease.

Cheered on by the Department's mascot Sparky, these Rambo lookalikes, firefighters all, took on the brawniest members of the Toronto Transit Commission in a challenge truck/bus pull.

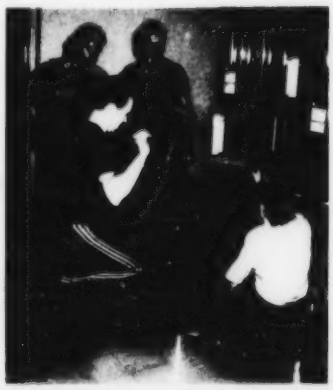
Fitness Co-ordinator Buckley has been instrumental in improving exercise facilities in the Department's 27 fire stations. All are now equipped with rowing machines and stationary bicycles. Fifteen also have Universal weight training equipment. The goal is to have this type of equipment in all the stations, however space is a problem in some cases.

The Fitness Co-ordinator visits the stations to ensure firefighters know how to properly use the equipment. Each and every firefighter can also receive an individualized fitness appraisal and personalized workout program.

Off-duty sports activities

Firefighters are encouraged to participate in both competitive and non-competitive sporting events during their off-duty hours. In 1988, TFD personnel took part in the Corporate Challenge, a five kilometre relay race, and the Emergency Services 9-1-1 Run, a 9.11 kilometre race that pits firefighters against police and ambulance personnel. The Department also accepted a challenge from the Toronto Transit Commission and participated in a truck/bus pull.

Events like these encourage firefighters to stay in shape. They also help them relax and build the kind of team spirit that's essential on the job.



The addition of Universal weight training equipment in 15 of the Department's 27 fire stations will help firefighters keep in shape for their physically-demanding work.

FIRE PLANNING AND OPERATIONS RESEARCH DIVISION

As host city for the Economic Summit of G-7 leaders in June of 1988, Toronto became the focus of global media attention. The headline-making days of conferences, private meetings and black-tie dinners represented the culmination of months of intensive planning. Responsible for co-ordinating fire service protection during the gathering of world leaders, the Fire Planning and Operations Research Division played a significant behind-the-scenes role.

Starting six months before the event, divisional staff represented the Department on a multi-agency summit security task force. Working alongside the RCMP, the OPP the Metropolitan Toronto Police, Metro-vicinity regional police forces, and the Department of Ambulance Services, Planning personnel developed a strategy that took into account the possible Summit role of the fire department.

The effectiveness of security preparations was reflected in the absence of violence and incendiary problems during the gathering. The only cause for concern was a midnight three-alarm blaze involving exploding propane tanks that occurred one block from the downtown Toronto hotel serving as headquarters for the U.S. Summit delegation.

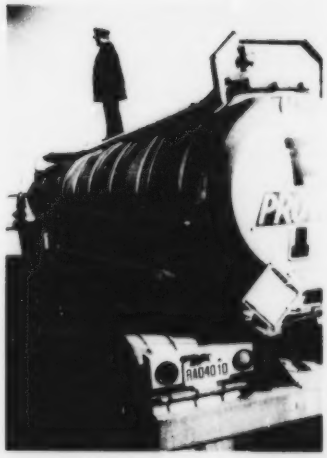
Director of Fire Planning and Operations Research Division Remmit P. Gaade

Aided by Computerized Drafting Equipment

The Department's computer-aided drafting equipment was used extensively prior to the June meeting to prepare detailed schematic floor plans of buildings where Summit activities were held. This high-tech drafting equipment was also used to produce accurate and up-to-date maps for security forces of downtown Toronto streets and routes taken by Summit delegates.

The computer-aided drafting equipment proved its value throughout 1988. It was used extensively to process floor plans of large buildings as part of the Department's ongoing Pre-Fire Inspection and Planning Program (P.I.P.). These plans, which contain information about the structural layout of a building, including reference to access problems, occupancy characteristics, and the location of potentially hazardous or toxic materials, are developed following on-site inspections by specially trained firefighters. This potentially life-saving data is made available to firefighters responding to an emergency through microfiche readers in all chiefs' and mobile command vehicles.

During P.I.P. inspections, buildings are also surveyed for any visible fire hazards and for proper maintenance of fire protection systems and equipment. Defective situations are brought to the attention of those responsible, who in turn, have to take appropriate corrective action, as outlined under the provisions of the Ontario Fire Code.



Vehicles used to transport hazardous or flammable materials, in this case propane, are carefully studied so that firefighters know what to expect in the event of a fire or spill.

FIRE PLANNING AND OPERATIONS RESEARCH DIVISION

Fiche Library of 54,000 Floor Plans

During 1988, 431 multi-storey buildings were inspected by crews from five apparatus. This brings to 6,740 the total number of commercial and residential buildings pre-planned, representing a microfiche library of more than 54,000 floor plans.

Familiarization tours of 11 major downtown buildings were also conducted for first-due firefighting crews.

In addition to processing data collected by P.I.P. crews, the computer-aided drafting equipment was used extensively to prepare street maps, and to assist in developing mechanical drawings of firefighting apparatus.

To ensure information concerning road closures and repairs is as up-to-date as possible, and access for fire apparatus is maintained, Divisional personnel meet regularly with staff from the Metropolitan Toronto Roads and Traffic Department.

Liaison, Information-Sharing Role

Divisional staff also serve on a working committee that includes representatives of the Toronto Transit Commission, operators of Metro Toronto's buses, streetcars, and subways. This ongoing contact has proven useful when responding to emergencies involving the public transit system. Information gathered through this relationship has also been applied when planning and implementing accident prevention and emergency response training involving TTC vehicles.

Testing Readiness of Staff and Equipment

In order to test the readiness of personnel and equipment, the Department stages numerous simulated emergencies, including large-scale, multi-agency exercises. Past simulations have included subway derailments, plane crashes and chemical spills. Planning is well advanced for a mock disaster involving a wide-bodied airplane and GO Transit commuter train, scheduled for the fall of 1989. In addition to the Toronto Fire Department, this simulation will involve the Etobicoke Fire Department, fire service personnel from the Lester B. Pearson International Airport, the Toronto Island Airport, and other emergency response agencies, including police, hospital, and ambulance personnel.

This major undertaking, like its predecessors, will add to the collective understanding of the effectiveness of multi-agency response procedures, and highlight opportunites for improvement.

The Department works closely with the fire departments at the two airports serving Metro. A TFD course on preparing for aircraft emergencies, presented jointly with Transport Canada, drew large numbers to the Toronto Fire Academy. A presentation was also made to the Annual Coroners' Education Course on the role of the fire service during an aviation disaster. Organized by the Chief Coroner's Office, this presentation by Division personnel was attended by 250 coroners from throughout Ontario.

Firefighter dons protective clothing during a hazardous materials incident.

Metro's "Mutual-Aid" Plan Revamped

Senior personnel changes in Metro-area fire departments necessitated a complete overhaul of the Metro Toronto Emergency Fire Service Plan, the blueprint for multi-agency responses to natural or man-made disasters in the Metropolitan Toronto Region.

As part of this examination, TFD Planning and Operations staff reviewed the dispatch methodology of all six Metro fire departments. Instruction sheets, explaining the dispatch procedure of each department, were subsequently developed and are now posted in fire stations across the Region. Fire crews responding under mutual-aid conditions now know how to receive and acknowledge a dispatch from another fire department.

FIRE PLANNING AND OPERATIONS RESEARCH DIVISION

Information Clearing-house for CAD

The Planning and Operations Division is the conduit through which information received from P.I.P. inspection crews, firefighters, other emergency response agencies, municipal employees, and the public, is checked, analyzed, cross-referenced and recorded for use in the event of an emergency. Functioning as an information clearing-house, the Division maintains an accurate, timely, and comprehensive data base for the Department's Computer-Aided Dispatch (CAD) System.

Largely as a result of P.I.P. inspections, 1,700 addresses in the City now carry warnings. A large number of these same locations, 1,400 in total, are flagged in the CAD system to receive an upgraded response in the event of an emergency call, due to the risk characteristics of the premises or its contents. Because incidents are often reported by building name rather than by street address, the TFD's dispatch computer is programmed to cross reference the commonly-used names of 2,800 buildings with their specific street addresses.

A welcome side-effect of the implementation of the CAD System has been the elimination of non-fire response reports. Typically 35,000 of these forms were filled out annually. With CAD, this information is now captured automatically, and is forwarded to the Fire Marshal's Office in the form of a computer tape.

Firefighters wearing protective clothing patch a punctured drum during a simulated chemical spill.

First with Decontamination Teams

Ensuring firefighters are protected and decontaminated following exposure to hazardous or toxic materials has been a growing concern, given the increase in this type of incident. In 1988, the TFD became the first fire department in Canada to introduce specially-trained and equipped "decontamination teams." Four aerials with specially-trained crews were designated to carry decontamination equipment designed by TFD personnel.

Incidents involving hazardous materials totalled 294 in 1988, up from 252 the year before. As the chart on this page indicates, calls of this nature have grown rapidly in recent years, reflecting the more widespread use of chemicals in our daily lives.

Hazardous materials calls during 1988 were as follows:

Chemical spills and leaks	107
Propane leaks	81
Fires involving chemicals	78
Harmful fumes	11
Incidents involving bombs/explosives	5
Explosions	4
Emergencies involving radioactive materials	1
Other	7
Total	294

(Refer to the accompanying story for information on incidents during 1988 involving hazardous materials.)

Hazard 1, the Department's hazardous materials response vehicle, attended 98 of these incidents. The balance was handled by first-in crews, or by firefighters specially trained in haz-mat response, staffing two rescue vehicles and three foam pumpers.

At least four designated "haz-mat" specialists, and a number of alternates are assigned to each of the Department's four platoons. When not serving with Hazard 1, these firefighters undergo related training, conduct on-site inspections, and draft pre-fire emergency plans that identify the location and risk characteristics of potentially dangerous materials.

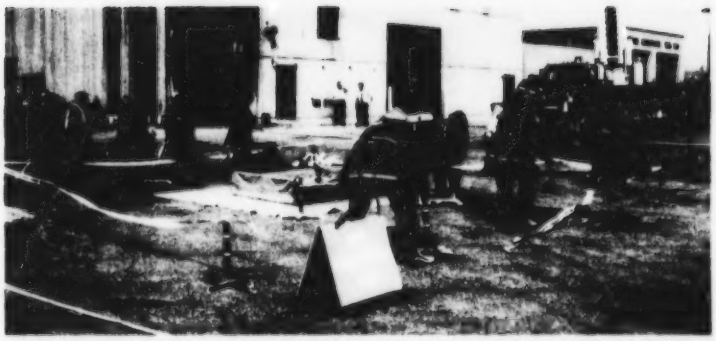
FIRE PLANNING AND OPERATIONS RESEARCH DIVISION

Haz-Mat Threat Taken Seriously

Each platoon is given a number of target locations to inspect and pre-plan. Efforts in this area have benefited greatly from the establishment in 1988 of a Haz-Mat Office in Station 15. This allocation of space, equipment and staff, is a reflection of how seriously the Department views the potential threat of hazardous materials.

The threat posed by PCBs has long been monitored. In 1988, 250 new PCB locations in the City were documented, adding considerably to the Department's haz-mat fiche library, (used as reference in the event of an emergency). This valuable data was forthcoming as a result of the Federal Government's order to PCB owners to notify local fire departments as to quantities and locations of this potentially dangerous material. This order was issued shortly after a well-publicized fire at a PCB storage site in St. Basile-le-Grand, Quebec

TFD staff on special assignment are working with Toronto Hydro engineers to pinpoint all transformers in underground vaults and on hydro-poles owned by the utility which contain more than 50 ppm of PCB. It is expected that 200 PCB locations will be added to the fiche library and noted as warnings in the Computer-Aided Dispatch System, as a result of this joint study.



Decontamination baths, like this one being set up at the Fire Academy during a training exercise, help protect firefighters who have been exposed to hazardous or toxic materials.

Impact of WHMIS Legislation

The coming into force during 1988 of the provincial Workplace Hazardous Materials Information System (WHMIS) legislation has added considerably to the paperwork burden of all Canadian fire services. (WHMIS requires many employers to supply their local fire service with floor plans showing the location and identifying the nature of all hazardous materials stored on their premises.) Methods of managing the volumes of paper generated by this legislation are being evaluated, including applying computers, in an effort to translate this data into a format useful to firefighters.

Playing a leading role in a specialized field means participating in a wide variety of committees and planning groups. Division staff represented the Department, and sometimes the Canadian fire service, on the following committees during 1988: The Metro Toronto Hazardous Materials Committee, the Canadian Association of Fire Chiefs' Dangerous Goods Sub-Committee, the Canadian Standards Association's Committee on Transportation of Dangerous Goods Shipping Documentation, the National Research Council's Standing Committee on Hazardous Materials Processes and Operations, and a Decontamination Working Group of the Metropolitan Toronto District Health Council.

Hazard 1, the Department's one-of-a-kind hazardous materials response unit is equipped to handle a wide range of emergencies involving toxic fumes or spills. The Chlorinated Polyethylene Entry Suits shown in the foreground protect firefighters from potentially fatal environments.

In addition to these ongoing contacts, Division personnel held several meetings with representatives of industries involved in the manufacturing and shipping of chemicals. Several firefighters also attended the annual Haz-Mat Response Teams Conference, held in Rockville, Maryland. Here they received both classroom and hands-on training.

Through contacts such as these, TFD personnel have an opportunity to "compare notes" with their counterparts from throughout North America. Information exchanged during conferences, committee meetings and discussions with manufacturers has added greatly to the Department's understanding of haz-mat and other types of emergency response challenges. Plugging into this information-sharing network has saved the City many thousands of dollars when evaluating and selecting equipment. More importantly, lessons learned have improved the Department's effectiveness, added to the protection of firefighters, and ultimately saved lives and property.

Incidents Involving Hazardous Materials

Calls involving hazardous materials have increased dramatically in recent years, and the worrying trend continued in 1988. Following are descriptions of the year's most serious haz-mat emergencies.

- The most spectacular incident occurred when two incompatible chemicals were accidently mixed, resulting in an explosion that blew out the wall of a west-side factory. The neighbourhood had to be evacuated when a cloud containing nitric acid seeped from the damaged plant. Twenty civilians, suffering from exposure to corrosive chemicals, were taken to hospital.

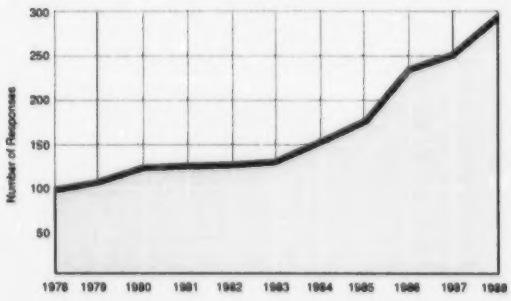
- Commissioners Street near the City's port was the scene of a number of chemical spills during 1988. A valve left closed during the loading of a ship resulted in the spilling of 145,000 litres of gasoline, an incident which taxed the Department's foam supplies. A spill of 19,000 litres of petroleum solvent at a nearby tank farm also required foaming. The area's most challenging haz-mat call, which took two days to trace and resulted in the evacuation of a four-block area, involved the leakage of many litres of hydrocarbon waste. The accumulation of more than 50 years' of spills from petroleum industry facilities, these wastes leached into the soil from a faulty sewer connection.

- Two civilians were injured when Titanium Tetrachloride spilled from a garbage truck carrying a piece of compacted industrial machinery. Identifying the chemical was difficult, because of a lack of proper packaging and dangerous goods labelling. Clean up was also complicated, given that the spills occurred in two locations, seven kilometres apart.

- Road accidents, both involving transport trucks, provided the Department with two of its most difficult haz-mat emergencies. The first took place during a sudden night-time ice storm, when a tanker carrying fuel oil slid backwards down a steep ravine and overturned. Firefighters, working side-by-side with other emergency-response personnel, managed to empty the tanker under extremely adverse conditions. Only eight of the 8,500 litres of fuel removed was spilled. Two TFD captains were injured when they fell on the ice-covered ravine slopes.

- The Department's hazardous-materials response capability was thoroughly tested when a courier truck carrying radioactive materials, flammable liquids, compressed gases, biological agents, and poisons, burst into flames while travelling on the Gardiner Expressway. Firefighters wearing protective suits managed to safely contain the blaze, monitored for radiation, and minimized the risk of exposure. Following these activities, decontamination teams ensured the safety of the firefighters who were involved in the incident.

TFD HAZARDOUS MATERIALS RESPONSES



FIRE PREVENTION DIVISION

Director of Fire Prevention Division
John W. Collins

Fire safety inspections of residential, commercial, industrial and institutional occupancies, and public education are two of many weapons employed by the Toronto Fire Department in its war against fire. Both strategies have proven effective in reducing fatalities, injuries and property loss.

In the case of the City's new buildings, the fire safety inspection process is a requirement prior to occupancy and continues throughout the structure's lifespan.

The Division's 23 inspectors are responsible for ensuring that all new structures in the City of Toronto meet Ontario Building Code standards for fire safety, where applicable. This requires checking that all fire protection equipment - fire alarms, sprinklers, standpipe systems, etc. - is properly installed and operating. Only when the inspector is satisfied that this equipment is functioning properly can the owner occupy or lease the building.

Once occupied, these same properties are regulated by the Ontario Fire Code, to ensure that fire safety standards are maintained.

The Department conducts inspections of all existing buildings in its jurisdiction to identify and correct any possible violations of the Fire Code. In the majority of cases where violations are found, owners rectify the problem after receiving a defect notice from a fire inspector. If necessary, the Department will take the building owner to court to protect the public's safety. In 1988, there were 97 charges prosecuted that resulted in $37,075.00 in fines being levied for violations of the Fire Code.

Pre-fire inspections

These inspections provide Fire Department personnel with the opportunity to "pre-fire plan" buildings. Under the P.I.P. program (short for Pre-Fire Inspection and Planning), specially-trained crews of firefighters conduct on-site inspections to gather information about the risk characteristics of larger buildings and facilities for use in the event of a fire or other type of emergency.

Detailed schematic drawings are made of the floor plans in these structures. Included are the locations of exits, sleeping areas, and places where potentially hazardous or flammable materials are stored.

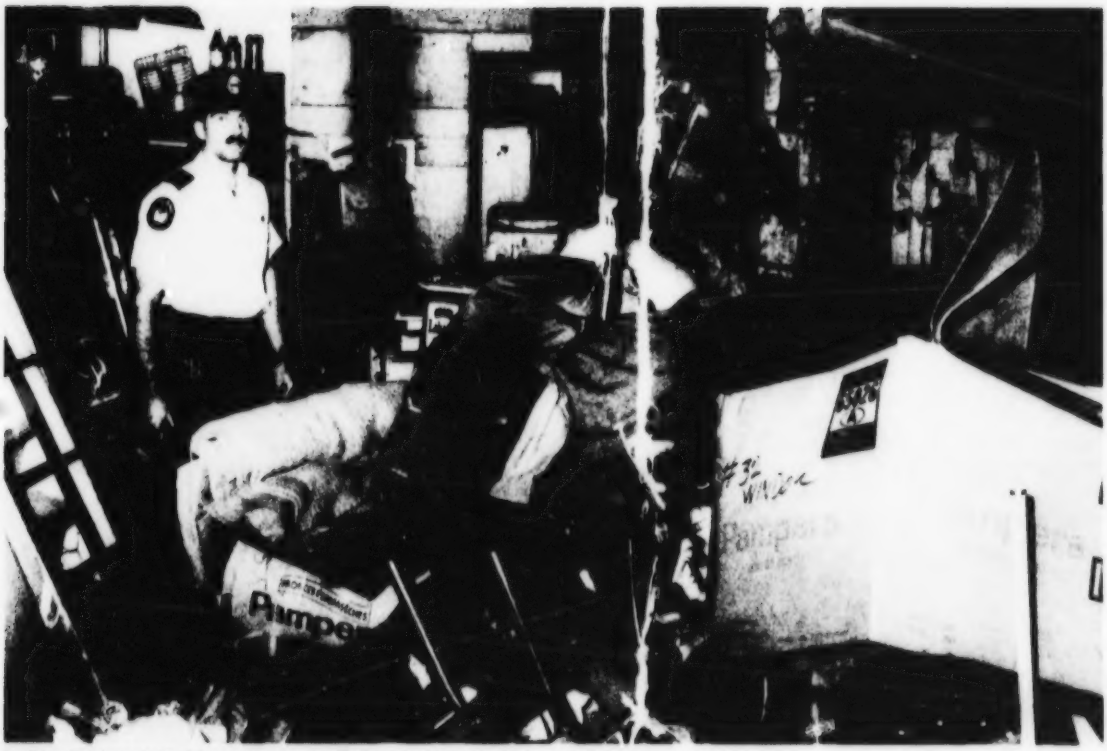
During 1988, 431 commercial properties and high rise buildings were inspected and documented. More than 54,000 floor plans have been created by P.I.P. crews since the program's inception in 1982. The majority of these floor plans have been transferred to microfiche by the Fire Planning and Operations Research Division. Firefighters responding to an emergency gain access to these P.I.P. plans through microfiche readers in mobile command vehicles.

Inspections of assembly-type buildings

Places where people gather in large numbers represent a special fire safety risk. To ensure that patrons of movie theatres, bars, stadiums and the like are not at risk, the Department has developed the Occupancy Safety Check Program. District Chiefs inspect these types of premises during peak operating periods for instances of overcrowding or unsafe conditions, such as inoperative fire alarms and locked or blocked fire exits.

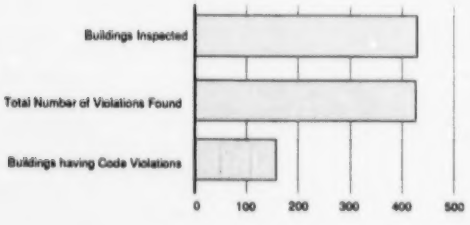
When a fire hazard or Fire Code violation is discovered, the owner or the most responsible person present is made aware of the potential danger and told how to remove the threat. In most cases, this verbal warning is all that is required to have the problem rectified. If, however, upon re-inspection, the threat remains, a fire inspector is notified and a follow-up inquiry is conducted. If the owner or manager still fails to comply with the Department's instructions, charges are laid under the Ontario Fire Code.

FIRE PREVENTION DIVISION

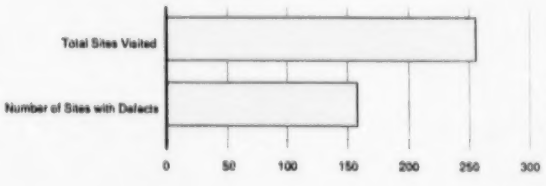


Conditions like these give firefighters nightmares. Imagine trying to navigate through this room during a fire.

PRE-FIRE INSPECTION AND PLANNING PROGRAM (P.I.P.) 1988



SAFETY CHECKS FOR ASSEMBLY OCCUPANCIES 1988



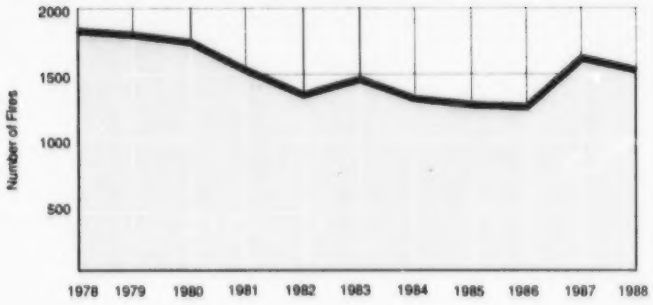
Retrofit inspections for older buildings

Introduced in 1983, the retrofit component of the Department's fire safety inspection strategy is designed to ensure that lodging and rooming houses, assembly occupancies and health care facilities constructed prior to the implementation of the Ontario Building Code meet minimum fire safety standards. These pre-1974 buildings are checked to determine the existence and effectiveness of fire alarm and detection systems, fire suppression systems, structural means of containing fire and smoke, and exits for use in an emergency.

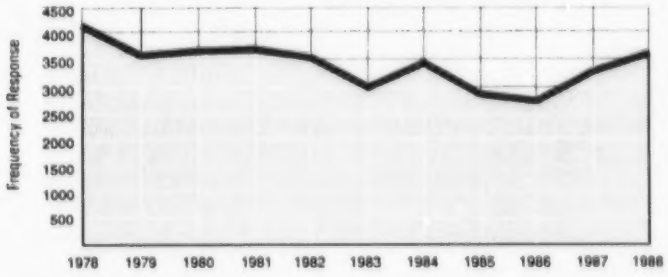
The Department also responds to requests from the public to investigate potential fire hazards. Most complaints received concern locked or blocked fire exits, overcrowding, and inoperative fire alarms and sprinklers.

Holes like this one in a basement ceiling facilitate the spread of fire.

RESIDENTIAL FIRES 1978 - 1988



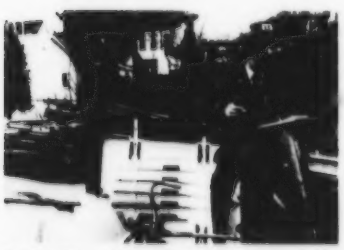
FALSE ALARMS (MALICIOUS) 1978 - 1988



FIRE PREVENTION DIVISION

RESIDENTIAL (GET ALARMED PROGRAM) INSPECTIONS

Type	Number
Total calls made	2,274
Not home	1,150
Refused admittance	105
Total number of inspections made	1,019
Rubbish not properly taken care of	13
Oily rags	1
Flammable liquids not properly stored	19
Defective chimney	1
Defective stove/furnace/smoke pipes	122
Combustibles too close to stove/furnace/smoke pipes	122
Fuse box overfused	85
Unsafe outlet box/switch box/wiring	52
Extension cord wiring excessive/defective	23
Smoke alarms	
occupancies with none	405
occupancies with at least one	614



Combustible debris scattered throughout this residential backyard earns a homeowner a defect notice from a fire prevention officer.

COMMERCIAL AND INDUSTRIAL INSPECTIONS

Type	Number
Routine	6
Complaint	1,035
Special	1,589
Building referral	651
Re-inspection	8,071
Fire drill	2
Exhibits checked	1
Miscellaneous call	6,671
P.I.P. Re-inspection	69
Matters referred to other departments	227
Prosecutions	95
Fire Protection Equipment Installed	
Elevators (conversions)	7
Extinguishers	608
Fire alarm and detection systems	32
Standpipes	0
Sprinklers	4
Fixed extinguishing systems	7
Voice communications	4

Home Inspection Program

For several years, on-duty firefighters have been inspecting residences in the City and assisting homeowners to recognize and eliminate fire hazards. Given that the largest number of fire fatalities and injuries occur in homes, this component of the Department's fire safety strategy is considered crucial.

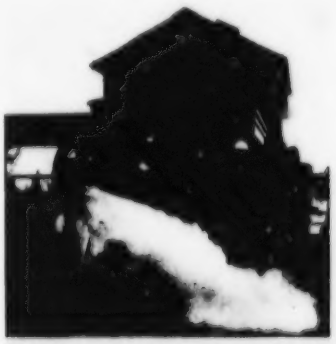
Statistics gathered as a result of the Home Inspection Program revealed that almost half of the homes inspected did not have any smoke alarms. To rectify this alarming situation, the Department has staged a number of promotions aimed at raising public awareness of the need to install and maintain smoke alarms in their homes. The Department has also provided smoke alarms free of charge to unprotected people living in those City wards with the highest incidence of residential fires.

A lifelike blaze at the Academy's Fire House thrills visitors during Fire Service Recognition Day.

Educating the public

The Department believes in teaching citizens of all ages how to prevent fires, and what to do if fire does break out.

During 1988, Fire Prevention staff presented 168 seminars to 12,000 people. Topics covered included fire alarm systems, fire safety planning, high rise building fires, sprinkler and standpipe systems, portable fire extinguishers, and the role of building management in the event of a fire. Presentations were geared to the needs of audiences who might be involved with the operation and maintenance of fire protection systems, or with evacuation procedures. Staff from hospitals, nursing homes, and industry, etc., were among those groups who attended these information sessions, the majority of which were staged at the Toronto Fire Academy.



Hospital employees learn the proper use of portable fire extinguishers during a training session at the Fire Academy.

Teaching the children

The Department operates a highly-successful fire safety education program designed for school children enrolled in junior kindergarten and grades one through three.

The youngsters are taught what to do in the event of a fire: crawl along the floor if there's smoke; stop, drop, and roll if their clothes catch fire. They are told how and when to telephone 911, and when to pull a fire alarm. They also learn about the dangers of playing with matches and lighters. The children are encouraged to ask their parents to prepare an escape plan and to make sure that smoke alarms are installed and tested.

A young visitor to the Academy learns what it feels like to wear a firefighter's self-contained breathing apparatus.

By teaching these and other fire safety principles at an early age, the Department believes this knowledge will remain with the young people throughout their lives. It is also hoped that the children will share what they learn with their families and friends.

Fifty firefighters volunteered to convey these important fire safety messages to the City's school children. Twenty-minute presentations on fire safety were followed by question-and-answer sessions. Whenever possible, fire apparatus were brought to the schools for the children to see and experience. Every child who participates in the program receives a balloon and a certificate. Teachers are provided with an instructional guide that contains background information on fire safety and suggestions for activities that reinforce the message conveyed by the visiting firefighter.

Kidsummer '88

Toronto Fire Department Day, August 10, was a highlight of Kidsummer '88, a summer-long festival of free events for children.

The Department's special day began with open houses at all 27 fire stations for children and their parents. More than 1,500 youngsters took advantage of the opportunity to tour the stations, sit in the trucks, and try on the firefighters' protective gear. Every child received an activity book and balloon and the adult guests were given fire prevention information.

The grand finale was an evening open house held at the Fire Academy. A standing-room only crowd was thrilled by demonstrations of firefighting and rescues. Visitors also had an opportunity to tour the Academy and get an up-close look at the Department's newest apparatus and equipment. Volunteers from the Box 12 Association distributed refreshments to all visitors, courtesy of Local 113 of the International Association of Fire Fighters.

This larger-than-life firefighter, unofficial guardian of the fire station at the Canadian National Exhibition grounds, is a favourite of visitors to the 'Ex'.

Chief for a Day

The Department staged its third annual Chief-for-a-Day Contest in June of 1988. This contest requires that students, with the assistance of parents or guardians, prepare simple floor plans of their homes or apartments showing all possible exits that could be used in the event of a fire or another emergency. Thousands of students from 158 elementary schools across the City took part in the contest which has proven effective in stimulating families to think about fire safety and planning to get out alive in the event of a fire.

This year's contest winner was Catherine Chow of Ogden Public School. Catherine was presented with a firefighter's silver helmet and given a tour of the Department. She was also treated to lunch and taken for a ride on the Department's fireboat.

Chief For A Day, Catherine Chow, receives a guided tour of the Department's fireboat, the William Lyon Mackenzie.

Public relations activities

The Fire Prevention Division's Information Section is at the centre of the many public events that the Department stages. Section staff frequently serve as spokespeople for the Department. The Section is responsible for public relations, media relations, and photographing major incidents and departmental events.

Along with the Training Division, the Information Section stages the Exemplary Service investitures and Fire Service Recognition days held at the Fire Academy. It is during these events that the Department recognizes the outstanding performance and bravery of its firefighters.

Ensuring both the public and the media properly understand the Department's actions and objectives is the prime motivation for much of the Information Section's information dissemination efforts. These include staging education displays in various shopping malls throughout the City, helping to organize and present career awareness sessions, and generally functioning as an information clearing house for the Department. The latter involves the production of a number of communication materials, including this annual report.

McDeputy Chief Joseph Underwood was one of dozens of Toronto firefighters who donned aprons and flipped Big Macs to raise money for McDonalds Childrens Charities of Canada.

Media relations a priority

Much of what the public knows about the Toronto Fire Department it learns from reading the newspapers, watching television and listening to the radio. Media support therefore is crucial to the success of many of the Department's fire safety initiatives.

The Department strives to ensure the media has access to accurate information as quickly as possible. Towards this goal, all firefighter recruits are briefed on proper behaviour when dealing with the media and the public.

The media appear to appreciate the Department's co-operative attitude and have been very supportive of the Department's public education activities.

Media Training Day

In appreciation, the Information Section and Training Division, in conjunction with Local 113, staged a Media Appreciation Day at the Fire Academy.

The event provides the media with an opportunity to experience first-hand the type of training Toronto's firefighters undergo. Following a presentation on the Department's structure and goals, and advice on who to contact at the scene of an emergency, the media don protective gear and self-contained breathing apparatus and try their hand at being a firefighter.

They get to ride in an aerial tower platform, operate a pressurized hoseline, go through a burning building, and fight a small oil-fed fire.

The successful "graduates" receive certificates recognizing their firefighting prowess.

The fun-filled event has a serious side. It is a unique way for firefighters and the media to gain a better understanding of each other's roles. New contacts are made and old friendships are renewed. The day's events often receive prominent coverage in the evening news broadcasts and next day's newspapers.

A young "recruit" follows the action during Fire Recognition Day.

A beaming Gord Martineau, right, took advantage of Media Appreciation Day at the Academy to learn what it's like to be in a firefighter's boots.

APPARATUS AND MAINTENANCE DIVISION

Director of Apparatus and Maintenance Division William J. Marshall

Located at 11 Ordinance Street, the Apparatus and Maintenance Division is much more than a garage. Servicing a growing fleet of increasingly sophisticated firefighting and support vehicles is only part of the Division's responsibilities. The mechanics, welders, carpenters, and body shop personnel who work here are constantly trying to improve existing equipment and develop new firefighting aids. Senior staff have the added responsibility of designing, drafting specifications, and ensuring delivery of all new firefighting apparatus. The latter is particularly important, given the Department's goal of lowering the years of service of its first line vehicles from 25 to 15 years; a task expected to be completed by 1990.

The Division's Carpentry Shop repairs everything from tarpaulins to firefighters' clothing and equipment. Wooden articles from the stations, such as tables, chairs, and cabinets are also refurbished and repaired, as is the upholstery on Department vehicles.

Responding to Thousands of Requests

"Stores", as it is known, distributes literally thousands of items on request; everything from firefighting equipment and protective clothing, to automotive parts, extension cords, and light bulbs. In 1988, this section processed more than $200,000 worth of work orders. It also controlled the supply and distribution of fuel and vehicle lubricants.

High Maintenance Standards

In a profession where every second counts, there is no room for mechanical breakdown or equipment failure. Accordingly, the Division's workmanship is of the highest standard, as witnessed by the fact that during 1988, less than one percent of the Department's 66 emergency-response vehicles failed to start or broke down en-route to any emergency.

This is no small accomplishment, given that there were 37,910 emergency responses in 1988, a large number of which involved more than one vehicle. This excellent record can be attributed to a combination of factors: a thorough preventative maintenance program, newer and better vehicles, and observant mechanics and vehicle operators.

Move to Enclosed Crew Cabs

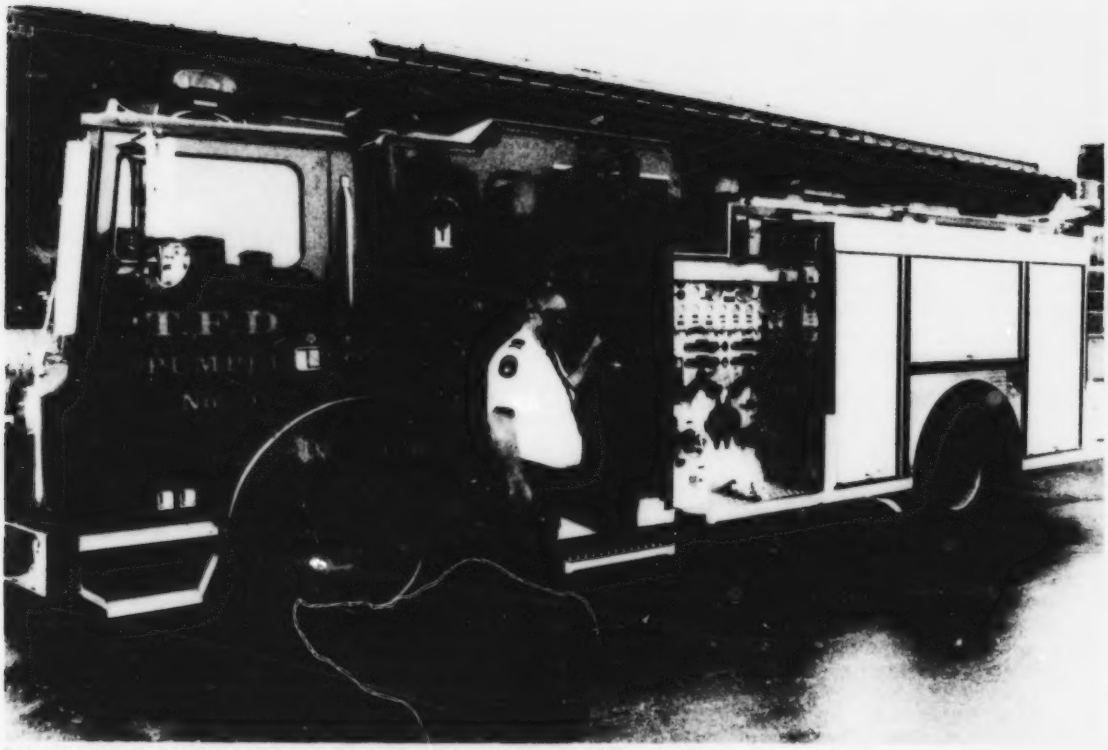
In a busy, congested city like Toronto, with its network of sometimes narrow and always congested streets, manoeuvring large vehicles at emergency-response speeds is not without risk. There have been incidents, often as a result of motorists failing to yield, where TFD apparatus have been involved in traffic accidents while responding to emergency calls. Following injuries to firefighters riding on these vehicles, the Department has moved from outside seating that was partially unprotected, through seatbelts and safety bars, to fully-enclosed crew cabs. The new cab design, evident in many of the Department's recent vehicle additions, provides added protection for firefighters in the unlikely event of a traffic accident. It has the additional benefit of providing protection from the elements (no small consideration given Toronto's winters).

Nine new vehicles were put into service by the Department in 1988: four pumpers, one aerial, a three-boom articulating aerial tower, known as a Bronto Skylift, High Rise 1, and cars for the Chief and Assistant Deputy Chief. Two of the new pumpers and High Rise 1 feature fully-enclosed crew cabs.

Sharing Knowledge and Concerns

Given its leadership role in the development, evaluation, and application of new firefighting apparatus and equipment, the Division's command personnel, Director William Marshall, and Technical Services Director Don Marks, are often called upon to share their expertise and opinions concerning technological advances and related concerns.

When you're in the business of saving lives and risking your own, there's no room for mechanical breakdown or equipment failure.



Enclosed crew cabs, like the one being shown here by Director William Marshall, are standard on the latest apparatus.

Both were on hand for the New York Chiefs' Convention, held in Montecello, New York in 1988. As a result of their participation in this conference, which featured the largest display of firefighting apparatus in North America, the Directors recommended the installation of brackets on two of the Department's pumpers, to accommodate lightweight, corrugated hard suction hose. Pumpers four and five, which operate in areas including the City's waterfront, now make use of the hard suction hose.

Director Marshall chairs the Metro Mechanical Sub-Committee, a group that meets every two months to discuss recommendations concerning fire apparatus and equipment passed down by the Metropolitan Toronto Association of Fire Chiefs. Past

A TFD mechanic puts the finishing touches to the fittings of an enclosed crew cab, one of three currently in service.

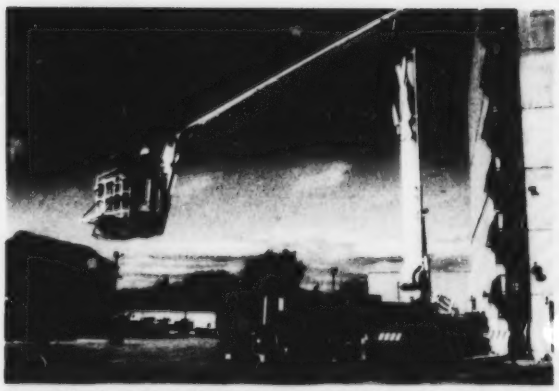
president of the Ontario Municipal Fire Departments' Mechanical Association, Director Marshall serves as the Association's liaison with the Ontario Fire College. Director Marshall has also taught at the College, most recently on "Fire Apparatus: Specifications and Warranty." In addition to leading this course, he served on a problem-solving committee consisting of fire services representatives and equipment manufacturers.

These formal and informal opportunities for discussion and information sharing have greatly assisted the Division in its efforts to upgrade equipment and maintenance practices and retrain personnel.

Specialized, High-Tech Apparatus

Customized to the Department's specification's, High Rise 1 transports firefighting equipment that is particularly suited for use in high-rise firefighting situations because of its light weight and portability. Operational since April, High Rise 1 responds to all emergencies involving hospitals, hotels, and buildings six storeys and higher in Wards four, five and six. This apparatus also responds to **any** emergency call involving a high-rise building or underground pedestrian mall where smoke is reported or when Communications receives multiple calls for a single location.

In service since October, the Bronto Skylift Aerial, a 27-metre, three boom articulating tower, is one of two identical units ordered from the Finnish manufacturer through Anderson Engineering of Vancouver. The Bronto is mounted on a Mack MR 686 chassis, equipped with a 5,000 litre-per-minute pump that can function as a self-contained water tower.



The flexibility of the Bronto Skylift's three boom articulating tower is evident in this demonstration at the Fire Academy.

The Bronto has proven itself invaluable in responding to fires on Toronto's downtown commercial streets. In the past, hydro wires and trolley-bus and streetcar cables hampered efforts to manipulate aerial ladders close to buildings. With the Bronto's articulating boom however, it is possible to raise the firefighting platform between overhead cables and wires with the lower portion of the boom in a vertical position. Once above these obstructions the two upper portions of the boom can be moved horizontally towards the building. In this position, firefighters in the bucket at the end of the articulating boom are able to sweep across the face of a building, to rescue victims through windows or off rooftops, or play water with pinpoint accuracy on to the burning building.

The Bronto has also played a key role in responding to emergencies on the Gardiner Expressway; the elevated, four-lane divided highway that runs parallel to Lake Ontario, along the southern edge of downtown Toronto. The flexibility and reach of the Bronto's articulating boom means that it can be operated from the roadway below the Gardiner, allowing firefighters working from the aerial's bucket to play water down onto the Gardiner's road surface.

Learning to Keep Pace with Technology

Divisional mechanics have had to learn new skills to properly service and maintain this new generation of high-tech firefighting apparatus. Keeping pace with evolving technology has also necessitated retooling, and acquiring computerized analysis and repair equipment, and related operator skills.

Staff at all levels have attended both in-house courses as well as advanced training sessions offered by suppliers. In some instances, this teaching has been geared to learning more about an advance in vehicle design, or a related piece of equipment. Sometimes, however, advances in vehicle technology have widespread learning implications, an example being the Department's 1980 decision to switch from manual to automatic transmissions on all its new apparatus.

The new turbo-charged diesel automatics have proven both easier to drive and to maintain. On average, vehicles equipped with automatic transmissions outlast their standard counterparts by three to five years, before major servicing is required.

TECHNICAL SERVICES DIVISION

Ensuring that the equipment firefighters rely upon in their dangerous work is both reliable and state-of-the-art is the responsibility of a team of highly-skilled technicians and craftsmen who staff the Technical Services Division.

A commitment to excellence is evident in all areas of divisional activity. These responsibilities include the testing and maintenance of fire hose, air and oxygen cylinders, fire extinguishers, ventilators, and self-contained breathing apparatus; the repair of fire suppression equipment used in connection with hazardous material responses and auto extrication incidents; and the evaluation and testing of new emergency response technologies, etc.

The constant striving for error-free maintenance, the ongoing need to develop and test safer and more effective fire suppression and rescue equipment, goes beyond professionalism. The men who provide a wide variety of support services to the Department are acutely aware that lives may depend on their work. Faced with increasingly complex and dangerous situations, firefighters need every edge possible, if they are to minimize risk both to themselves, and to the people they protect. Technical Services likes nothing better than to provide that edge.

Division staff are constantly exploring, developing, and testing new technologies and procedures, to improve the Department's emergency response capabilities.

Director of Technical Services Division Donald T. Marks

Technical Breakthroughs in '88

The expertise of Division staff, combined with input from firefighters, has resulted in several technological breakthroughs.

The 1988 introduction of decontamination kits on selected TFD apparatus – a fire service first – is one of numerous examples where co-operation between TFD divisions resulted in significant advances.

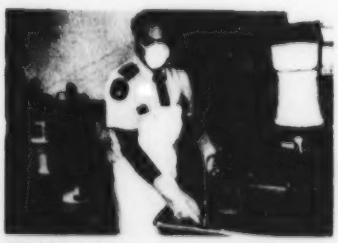
The need for specialized decontamination equipment was identified by medical and firefighting personnel who were concerned about the possible health risks associated with exposure to toxic chemicals and airborne pollutants; a growing danger given the increase of hazardous material calls in recent years.

Technical Services personnel, with input from the Fire Suppression Division, developed and manufactured tanks that are used to decontaminate TFD firefighters who have been exposed to hazardous materials. The effectiveness of this equipment was proven through extensive testing and monitoring. Working with the Training Division, Technical Services personnel also established standard operating and training procedures for its use.

Extensive Testing and Training

Safety and reliability are the watchwords that govern the evaluation of all technologies and procedures at the TFD. Before a new piece of equipment or a new technique is applied in a real emergency, it is tested thoroughly, and firefighters receive extensive training in its use.

Exhaustive testing proved the worth of Arcair cutting/slicing torches which were added to the equipment arsenals of selected aerials and rescue vehicles in 1988. This efficient and lightweight tool is primarily used to cut away debris and free victims trapped by steel beams or supports. The Arcair torches have also proved useful in situations where forcible entry is required. They replace an earlier generation of oxygen-acetylene torches that were cumbersome, heavy, and more difficult to use.



Ventilators used when resuscitating victims of smoke inhalation, etc. are sterilized after every use to prevent the possible spread of contagious diseases.

Outdated Workline Breathing Units were replaced in 1988 with Hoseline Respirators. These new units allow firefighters to prolong operations in smoke-filled areas. Lighter and more compact than previous self-contained breathing apparatus, the Hoseline Respirators meet NIOSH and CSA standards for positive-pressure SCBAs. Five apparatus are now equipped with the Hoseline Respirators, along with improved lifelines and safety harnesses.

Development by Technical Services staff of a new assembly device has enabled the Department to replace its individual, low-pressure air cylinders with dual high pressure tanks on all its air-operated rescue equipment. The ability to double the air supply has greatly enhanced the effectiveness of this vital equipment.

One of the Division's most imaginative creations is modular, lightweight equipment used in high-rise emergencies. Since April of 1988, High Rise 1 has been responding to calls involving buildings six floors or higher, and underground pedestrian malls. The compact firefighting equipment transported by High Rise 1 has been specially designed or adapted for use in these kinds of calls, where firefighters often must carry power generators, ventilators and the like considerable distances, and also work in confined spaces.

Prior to equipping rescue squads with Arcair torches, the unit was thoroughly tested by Technical Services.

The Department's new Arcair cutting/ slicing torches are compact and light enough to be carried by backpack. The previous generation of oxy-acetylene torches could only be moved with the aid of a wheeled stand and considerable effort.

Hydrostatic Testing Equipment Introduced

Every year the Division upgrades its maintenance capabilities to keep pace with changing technology. In 1988, hydrostatic testing equipment was improved, increasing the Division's ability to test all types of portable fire extinguishers. The introduction of electronic testing equipment, scheduled for 1989, will enable the Division to better test and maintain ventilators.

Division staff attend many professional development courses staged by the Department and other fire services, and certification training sessions offered by equipment suppliers.

The diversity and ever-changing nature of emergency-response technology and related standards and procedures is reflected in the conferences, seminars, and workshops attended by Technical Services staff during 1988. Just some of the topics covered during these sessions were auto extrication procedures and training, developments in self-contained breathing apparatus, maintenance and use of lifelines, safety ropes, and ventilators, and new approaches to tactical command, management, and training in the fire service.

By taking advantage of formal and informal learning opportunities, by sharing information with their peers and other fire services, and by developing better and safer ways for the Department to fulfil its mandate, Technical Services staff have become leaders in the field of fire services technology. Perhaps more importantly, they have earned the trust of their firefighting colleagues.

TECHNICAL SERVICES DIVISION

Hose is tested regularly as part of a scheduled maintenance program.

Gaining hands-on experience.

STATISTICS

Types of Fire Hose Tested	Number Tested
Diameter - 100mm	38
Diameter - 90mm	42
Diameter - 77mm	60
Diameter - 65mm	1,600
Diameter - 38mm	1,444
Total Hose Tested	3,184

Air Cylinders Recharged	Number Recharged
High Pressure	10,352
Low Pressure	405
Total Cylinders Recharged (Air)	10,757
Oxygen Cylinders Recharged	3,054

Cylinders Hydrostatically Tested	Number Tested
Air Cylinders	307
Oxygen Cylinders	35
Total Cylinders Hydrostatically Tested	342

Fire Extinguishers Serviced	Number Serviced
CO Recharged	898
Dry Chemical Recharged	438
Pressurized Water Recharged	106
CO Hydrostatic	14
Dry Chemical Hydrostatic	10
Pressurized Water Hydrostatic	36
Total Extinguishers Serviced	1,502
S.C.B.A. Serviced	555
Ventilators Serviced	140
Work Orders Processed	1,355
Requisitions Processed	195
Number of Times S.C.B.A. Used	3,780
Total Hours S.C.B.A. Used	1,202

COMMUNICATIONS DIVISION

The Communications Division maintains an around-the-clock lifesaving link between the Department and the community it protects.

The Division's highly-trained dispatchers processed almost 35,000 emergency calls during 1988, approximately two thousand more than in 1987. Typical of increases in recent years, emergency responses are running five years ahead of projections. The reassuring professionals who handle these calls for help also answer countless queries from the public.

Despite this unprecedented demand, the processing time for emergency calls during 1988 remained at an average of 1½ minutes. (Processing time refers to how long it takes to answer the call, gather and relay information, and receive acknowledgement that apparatus is on its way.) The Department is justifiably proud of this statistic, given the volume of calls and the recent increase in their numbers.

Dispatchers maintain an around-the-clock link between the Department and the community it protects.

Director of Communications Division George R. Murray

Firefighters on special assignment were trained to help carry the dispatch workload. This proved to be very successful. Doing tremendous work, these firefighters gained new perspectives and insights, and a greater appreciation of the important role played by the Communications Division. No doubt they will share this knowledge with colleagues when they return to regular duties. Their input also helped veteran dispatchers see their responsibilities in a new light.

Sources of Alarm Calls

Most alarm calls are received via the 9-1-1 emergency telephone system. This system has several valuable features, including Automatic Number Identification/Automatic Location Identification (ANI/ALI), and emergency ringback. The latter allows dispatchers to hold onto and reconnect lines if callers are cut off for any reason.

ANI/ALI provides dispatchers with phone numbers and addresses of callers. It identifies whether the call is coming from a business or residence, provides the time the call was received, and when it was answered by the dispatcher. Most calls are answered within two or three seconds!

Emergency calls also originate with the ambulance service, the University of Toronto, Ontario Hydro, Queen's Park, the Toronto Transit Commission, and the City's Water Works, all of which have direct phone links to the Communications Division. The Department is connected to the police and other fire services via the 9-1-1 system.

People also walk into fire halls to report an emergency. These are known as still alarms. In cases such as these, the fire hall floor watch notifies a dispatcher of the alarm by radio. People needing assistance can also report an emergency by using one of the telephones recently installed on the fronts of all 27 City of Toronto fire stations. These phones are hooked up directly to the Dispatch Centre, which is reached by dialling "0."

Computer Aided Dispatch

Developed by a team of programmers and electronic engineers in consultation with the Communications, Planning and Research, and Firefighting Divisions of the Toronto Fire Department, Computer Aided Dispatch was introduced on a trial basis in late 1986. Having proven its worth and reliability, it became the Department's primary means of dispatching fire apparatus in 1988.

CAD proposes the most suitable apparatus to respond to the given address of an emergency, based on the current availability and status of vehicles and personnel. Perhaps of even greater value, is the information that can be transmitted automatically in the printout that is sent to the fire halls, prior to the voice dispatch.

The names and types of buildings involved are included, as are warnings concerning everything from the existence and risk characteristics of hazardous chemicals, to the location of disabled residents, water supply concerns, or even the presence of guard dogs! Indices for building floorplans and street maps, which are collected through the Department's Pre-Fire Inspection and Planning (P.I.P.) program, and recorded on microfiche, are also included as part of the dispatch printout.

All TFD fire stations are linked by radio to the dispatch room, nerve centre of the Communications Division.

Address Verification, Checking Feature

As an emergency call is received, the dispatcher enters the location and CAD instantly verifies the address. CAD may provide a list of possible duplicate or similar-sounding street names, enabling the dispatcher to question the caller further, to ensure the address is correct. The closest cross streets are then automatically displayed on the dispatcher's computer screen (and later on the dispatch printout), to help confirm the address. The phone number called from, the source of the alarm, and as detailed a description of the emergency as possible, are also entered into the computer.

Once the required information has been captured, and the caller has been given any necessary advice (such as "Get out of the building!"), the dispatcher tells CAD what kind of apparatus is required. CAD immediately suggests the closest available emergency response vehicle, as determined by the Status Display Microcomputer (more on this later). Within seconds of, or while still speaking to the caller, the dispatcher can approve the apparatus proposed by CAD, and send the dispatch printout to the appropriate fire halls. Emergency tones are then sent out over the stations' public address speakers. The dispatcher broadcasts the identification numbers of the responding apparatus, and provides information on the location and nature of the incident. The fire station floor watch pushes a button to acknowledge receipt of the message.

The responding firefighters "hit the ground running", armed with a dispatch printout containing up-to-the-minute information. In some cases, they arrive at the emergency scene with a plan of action already worked out.

Receiving a dispatch message over a fire station printer.

ALARMS CALLED RECEIVED 1973 - 1988

Year	Number of Calls
1973	16,150
1974	17,872
1975	18,974
1976	19,397
1977	20,362
1978	20,008
1979	20,855
1980	22,081
1981	22,745
1982	24,068
1983	27,359
1984	36,323
1985	32,500
1986	33,396
1987	35,744
1988	37,730

COMMUNICATIONS DIVISION

Status Display Microcomputer

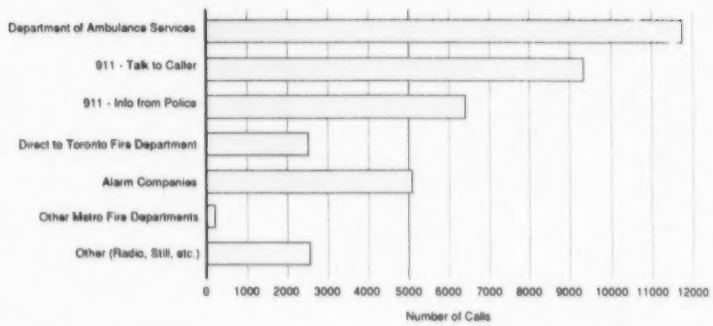
The Status Display Microcomputer records the floor watch acknowledgement, and removes the responding apparatus from its list of available vehicles. Across an entire wall of the Dispatch Centre is a coloured City of Toronto map, and a bank of lights. Each light represents a single apparatus. This provides an accurate, and up-to-date visual display of the status of all fire suppression and support apparatus. This electronic status board is also updated when dispatchers receive reports from fire crews via portable or mobile vehicle radios.

The mobile radios on all firefighting vehicles will soon be equipped with status control heads. These will enable the officer in charge of the apparatus to inform Communications of any changes in vehicle status by sending an encoded radio signal directly to the computer. Eliminating dispatcher intervention and voice transmissions will leave radio channels open for emergency transmissions, and enable both dispatchers and firefighters to concentrate on other duties.

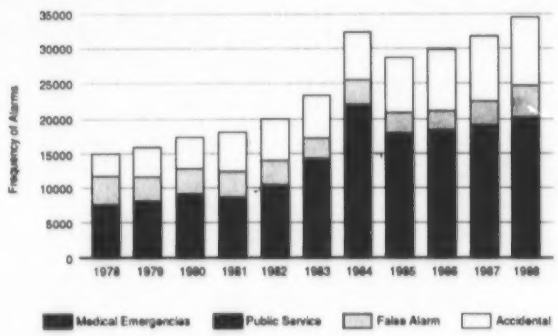
The CAD system is also capable of producing, on demand, a printout detailing every step in each emergency response, along with a recording of all related telephone and radio conversations. This ensures a complete accounting of each incident. This documentation is used during investigations and as a means of evaluating the Department's performance.

Eventually, statistics gathered through CAD will provide an arson "score", or probability for every address where a fire has occurred. Sources and causes of alarms are also compiled so that Fire Prevention can target areas for increased public education.

ORIGIN OF EMERGENCY CALLS TO TORONTO FIRE DEPARTMENT



ALARMS - OTHER THAN FIRE 1978 - 1988



MONTHLY ALARM BREAKDOWN

	Type of Call				
	Fires		Other Runs		
	Number	%	Number	%	Total Calls
January	280	9	2,805	90	3,085
February	221	8	2,375	91	2,596
March	292	10	2,507	89	2,799
April	291	10	2,483	89	2,774
May	380	12	2,696	87	3,076
June	416	12	2,885	87	3,301
July	367	10	3,225	89	3,592
August	299	8	3,167	91	3,466
September	300	9	2,968	90	3,268
October	291	9	2,928	90	3,219
November	261	8	2,892	91	3,153
December	317	9	3,084	90	3,401
Total	3,715	9	34,015	90	37,730

Metropolitan Toronto Data Base

The City of Toronto is at the centre of Metropolitan Toronto, and accounts for approximately 25 percent of its population of 2½ million. The other member Metro municipalities – the cities of York, Etobicoke, North York, Scarborough and the Borough of East York – are served by separate fire services, as is the City of Toronto itself.

The distinction between the geographic area known as the City of Toronto and the political region known as the Municipality of Metropolitan Toronto is confusing to many citizens. The fact that both the police and ambulance services have Metro-wide jurisdictions only clouds matters. Not surprisingly, the Toronto Fire Department fields emergency calls that should go to other area fire services.

A recent supplement to the CAD system, known as the Metro Data Base, helps TFD dispatchers determine if calls should be handled or redirected to one of the other area fire services.

Programs developed by Communications Division personnel have enabled CAD to understand information provided by Metro's Central Mapping Agency. All streets in Metropolitan Toronto are now stored in the CAD system, along with a list of the closest City of Toronto fire halls.

Allowing dispatchers to quickly determine if an address is within the City of Toronto or in one of the neighbouring municipalities that make up Metropolitan Toronto, may necessitate redirection of the call to another fire department. This is only one of the benefits associated with the Metro Data Base. It also enables CAD to suggest the appropriate City of Toronto fire apparatus to dispatch when the mutual aid plan, known as the Metropolitan Toronto Emergency Fire Service Plan (MTEFSP), is activated.

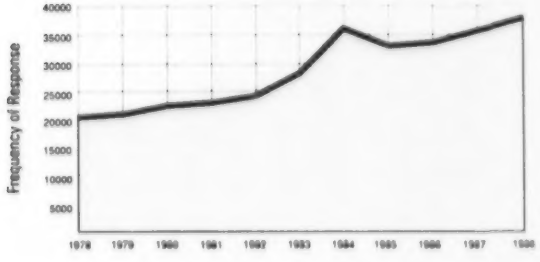
Given the degree of co-operation between the various Metropolitan Toronto fire services, and the need to co-ordinate responses to large-scale emergencies, the Metro Data Base is a valuable resource.

CAD, the Metro Toronto Data Base, and several other advancements reflect the Communications Division's endless search for the most efficient method of dispatching emergency apparatus. The aim, as always, is to enable firefighters to reach the scene of an emergency quickly, safely, and with all the information they need.

MONTHLY ALARM BREAKDOWN

	Received by Phone		Still		Radio		Other		
	Number	%	Number	%	Number	%	Number	%	Dollar Loss
January	1,492	48	38	1	24	0	1,531	49	702,625
February	1,101	42	19	0	7	0	1,469	56	980,362
March	1,131	40	37	1	7	0	1,624	58	1,039,971
April	1,098	39	42	1	16	0	1,618	58	2,971,489
May	1,192	38	51	1	22	0	1,811	58	1,935,506
June	1,231	37	56	1	21	0	1,993	60	4,520,142
July	1,328	36	71	1	35	0	2,158	60	715,194
August	1,167	33	63	1	31	0	2,205	63	540,998
September	1,066	32	50	1	31	0	2,121	64	2,922,451
October	1,102	34	50	1	24	0	2,043	63	1,240,187
November	1,013	32	51	1	22	0	2,067	65	1,026,483
December	1,172	34	50	1	22	0	2,157	63	1,459,669
Total	14,093	37	578	1	262	0	22,797	60	20,055,077

TOTAL RESPONSES 1978 - 1988



PUBLIC SERVICE RESPONSES 1978 - 1988

TRAINING DIVISION

Director of Training Division
William T. Mount

Firefighters are known for their ability to stay cool when the action heats up. The confidence they project during emergencies is part bravery, but mostly it's a reflection of the training they receive. Prepared and equipped to resolve life-threatening situations safely and efficiently, they're motivated professionals doing what they do best – protecting people and property.

Firefighters must be experts in many disciplines. Working with high-pressure pumps, hose and auto-extrication equipment, they require an engineer's familiarity with hydraulic equipment. To be able to analyse the threat posed by a burning building they must develop a knowledge of construction methods and structural engineering. Because they treat the sick and injured they require first aid and cardio-pulmonary resuscitation (CPR) skills. Teaching ability also comes into play as firefighters spend considerable time alerting the public to the risks posed by fire hazards.

Learning throughout career

Firefighters are dedicated students who receive training throughout their careers.

Recruits and veterans alike are taught the theory and practical applications of firefighting and fire prevention at the largest and most innovative training facility of its kind in the country - the Toronto Fire Academy.

Headquarters for the Training, Technical Services and Medical Divisions, this east end complex has an active fire station, Number 30, as well as a museum and memorial garden. Its training facilities are impressive: a 500-seat auditorium, a seven-storey indoor training tower, several classrooms equipped with audio-visual aids, and a number of outdoor amenities used in realistic training simulations. These include a two-storey "fire house", where firefighters and their equipment are put to the test. Known as the fireground, this area contains tanks and pits which, when set ablaze, provide firefighters with experience battling flammable liquid fires. Emergencies involving hazardous materials are also simulated in this area. At times, the Fire Academy resembles a wrecker's yard, as firefighters practice using extrication and cutting tools on a collection of badly damaged and burned-out cars.

A new recruit learns how to open a water hydrant as an instructor offers encouragement.

The aerial in the foreground depends on pumpers to obtain the water pressure necessary to fight a high rise fire.

The teaching facilities of the Fire Academy also come into play when familiarizing staff with new equipment and apparatus. It is here that most firefighters learn about the many features of the Department's high rise and hazardous response vehicles, and the aerial towers with articulating booms. Practice here, under controlled but realistic conditions, gives firefighters the hands-on experience that's crucial in building their confidence.

Recently-acquired video equipment is used to tape briefings by technical representatives of the various apparatus and equipment distributors. These tapes are circulated throughout the Department. Plans are to supply every fire station with a library of video tapes. In addition to equipment briefings there would be tapes on fire prevention, first aid, etc., for use by firefighters and possibly for loan to interested groups.

Realistic simulations staged

Large-scale training exercises conducted in the community in the past have involved simulations of a plane crash and a train derailment. Events such as these test the readiness of personnel and equipment, and the Department's response and communications capabilities. Often these lifelike emergencies involve working with other fire services, the police, and the ambulance service.

More than 700 recruits have passed through the Fire Academy since it opened in 1970. Recruits spend six weeks at the Academy learning everything from how to extinguish fires to performing high rise rescues. It is during this time that they learn how to work effectively as members of a team.

Recruits learn how to work effectively and safely while wearing protective clothing and self-contained breathing apparatus during six weeks of basic training at the Fire Academy.

These probationary firefighters spend the next four months assigned to one of the Department's 27 fire stations, where they learn additional skills under the watchful eyes of veterans. Daily "drill sessions" for new firefighters consist of study and practice sessions. This regime is followed by a one-week re-evaluation at the Academy, prior to graduation.

Captains and firefighters are required to return to the Academy at least twice a year for intensive classroom and fireground training. These sessions often cover new developments in firefighting, rescue, medical, and arson investigation techniques. Changes to fire prevention legislation are also reviewed. Fire Department staff are responsible for enforcing the Ontario Fire Code and aspects of the Ontario Building Code that apply to fire prevention and safety.

All firefighters must participate in first aid re-certification testing at the Academy. This annual review ensures their proficiency in CPR and the operation of self-contained breathing apparatus.

Professional development courses are also offered at the Academy. These help officers develop their tactical command and managerial skills.

Defensive driver training, modelled after the Canada Safety Council's Professional Driver Improvement Course, is offered on a Department-wide basis.

Techniques and reference materials used at the Academy to familiarize both staff and the public with developments in fire prevention and protection are assessed and revised on a regular basis. The Department's training manual is being revamped with input from a committee of fire officers. This major undertaking is expected to be completed later this year.

Realistic training develops job skills and builds confidence and teamwork.